



EPA Region 10 Enforcement and Compliance Assurance Division

Clean Water Act (CWA) Inspection Report

Inspection Entry Date/Time	01/03/2024 9:55 AM (PT)	Announced: No		
Inspection Exit Date/Time	01/03/2024 1:45 PM (PT)			
Media	Water			
Statute(s)/Program(s)	Clean Water Act, NPDES, Stormwater – Industrial			
Type of Inspection	CEI - Compliance Evaluation Inspection			
Permittee Name	Trails End Recovery			
Facility Name	Trails End Recovery			
Facility Physical Address	2060 SE Airport Lane			
City, State, Zip Code	Warrenton, Oregon 97146			
Facility GPS Coordinates	46.143889 N -123.875278 W			
Facility Owner	Custom Excavating by Dean Larson Inc. DBA: Trails End Recovery			
Facility Owner Address	2060 SE Airport Lane			
City, State, Zip Code	Warrenton, Oregon 97146			
FRS ID	110069599330			
Permit # / ODEQ File #	ORR127194 / 112084			
SIC Code	5093 – Scrap and Waste Materials (Primary), 5261 – Retail Nurseries, Lawn and Garden Supply (Secondary)			
Inspection Contacts:				
Organization	Name	Title	Present in Opening Conf.	Present in Closing Conf.
EPA Region 10	Jon Klemesrud	Lead Inspector	Yes	Yes
EPA Region 10	CJ Langlois	Inspector	Yes	Yes
Trails End Recovery	Alex Raichl	General Manager	Yes	Yes
Trails End Recovery	Rachel Marriott	Office Manager	Yes	Yes
EPA Inspector Signature/Date	JON KLEMESRUD		Digitally signed by JON KLEMESRUD Date: 2024.03.08 14:22:49 -08'00'	
	Jon Klemesrud			
Supervisor Signature/Date	PETER CONTRERAS		Digitally signed by PETER CONTRERAS Date: 2024.03.08 15:39:23 -08'00'	
	Peter Contreras, Chief FDDWES			

This inspection report is based on information supplied by conversations with Mr. Alex Raichl and Ms. Rachel Marriott or direct observations made at the time of the inspection, and records and reports maintained by the permittee. This inspection report may also include information gathered from a review of EPA, ODEQ, and/or public records.

SECTION I – INTRODUCTION

Entry and Inspection Chronology

This was an unannounced inspection. I was joined on the inspection by fellow EPA Region 10 Inspector, CJ Langlois. Oregon Department of Environmental Quality (ODEQ) was invited to accompany us on the inspection but was not in attendance.

On January 3, 2024, CJ Langlois (EPA) and I arrived on-site at approximately 9:50 AM. After parking in the designated visitor parking area outside of the main office, CJ Langlois and I approached the main service window located along the facility's entry/exit scale. We were then greeted at the sliding window by Office Manager, Ms. Rachel Marriott. I introduced myself and explained that I had been asked to conduct a routine on-site inspection at Trails End Recovery. The inspection purpose was to assess compliance with the facility's coverage under ODEQ's Industrial Stormwater Discharge Permit (1200-Z), in coordination with ODEQ.

Ms. Marriott agreed to the inspection and invited us inside the main office area. She subsequently informed Mr. Alex Raichl, General Manager of Trails End Recovery of the inspection via phone. As Mr. Raichl was on-site, he made his way into the main office area to join us. Following our initial introductions with Mr. Raichl, CJ and I presented our EPA inspector credentials and I discussed the purpose/expectations of the inspection. I also provided my business card and a copy of EPA's Small Business Resources Information Sheet, which was briefly discussed.

Mr. Raichl informed us that about 1-2 weeks prior, he had received an evening phone call from a woman within EPA's Emergency Operations Center, inquiring about a possible fire that was reported at the Facility. Mr. Raichl discussed that there hadn't been a fire and initially questioned if that was the nature of our visit. I explained that I wasn't aware of the call/incident and that my inspection was pursuant to the stormwater discharge under ODEQ's stormwater permit (1200-Z). The inspection continued as Mr. Raichl then offered to lead us on a walk-through of the facility while Ms. Marriott would prepare some of permit required/related documentation to be reviewed after the walk-through.

The inspection consisted of an opening conference, a walk-through of stormwater areas and related infrastructure, a records review, and a closing conference. During the closing conference, we discussed the walk-through observations, potential areas of concern and next steps. Portions of the records review occurred both pre- and post-inspection as discussed in Section III of this inspection report. We were accompanied throughout the inspection by Mr. Raichl. Ms. Marriott was present for the opening conference, on-site records review and closing conference.

Permit/Compliance History

Trails End Recovery (hereinafter referred to as the "Facility") is permitted under ODEQ's Industrial Stormwater Discharge Permit (1200-Z) for their discharges into an unnamed slough and roadside ditch. The roadside ditch eventually connects to the unnamed slough after it travels approximately 1580 feet. The unnamed slough then discharges to the Lewis and Clark River, which then flows then into Younds Bay and the Columbia River Estuary.

The Facility was first permitted under the 1200-Z on January 28, 2003. The current permit tracking number assigned to the Facility is ORR127194 (ODEQ File # 112084). The Facility is also subject to the sector specific requirements identified in Schedule E of the 1200-Z Permit (Sector N – Scrap and Waste Materials). Monitoring requirements for Sector N, include benchmark sampling for Chemical Oxygen Demand (COD) and Total Aluminum. As the Facility discharges to the Columbia River watershed, statewide benchmark sampling is required for Total Copper, Total Lead, Total Zinc, pH, and Total Suspended Solids (TSS). See **Attachment A**, ODEQ Issued Monitoring Requirements Letter. The current monitoring requirements were effective with the reissuance of the 1200-Z (July 1, 2021).

The Facility was last inspected by ODEQ on July 10, 2019, ODEQ conducted a subsequent sampling event on March 13, 2020. Based upon the findings of the ODEQ inspection and sampling event, the Facility was issued an Administrative Final Order by ODEQ on March 30, 2020 (OR-WQ/SW-NWR-2019-24).

The Facility most recently triggered Tier I corrective action requirements in December 2023, as sample results from their Pond 2 discharge exceeded sector-specific benchmark limits for Aluminum. Additionally in 2023, the Facility also triggered Tier 1 corrective action requirements in November 2023 (Pond 2 & Pond 3 discharges), May 2023 (Pond 2 discharges), March 2023 (Pond 2 discharges) and January 2023 (Pond 2 discharges). The 2023 Tier 1 corrective actions were primarily triggered for exceedances of the sector-specific benchmark requirements for Aluminum and COD.

SECTION II – SITE REVIEW / OBSERVATIONS

Site Review

Trails End Recovery is a materials recovery and recycling facility located just outside of Warrenton, Oregon, retail landscape materials are also sold on-site. Activities at the Facility generally include the receiving, sorting, and processing of wood products, yard debris, concrete and asphalt, brush/land clearing debris, dirt/rock/sod, scrap metal, mixed construction debris, wood ash and log yard material. Once sorted and processed, recovered/recycled products are stored, trucked off-site or sold to drive-up customers.

Each load of incoming material is inspected, the Facility does not receive asbestos containing materials, liquids (i.e., paint, motor oil, cooking oil, gasoline), chemicals, medical waste, hazardous waste, fuel tanks, bulk tires, contaminated soil, tar roofing, light bulbs, car batteries. For construction debris, the facility requires a completed asbestos survey at the time of arrival (prior to entering). On-site activities are conducted during all months of the year. The Facility is open to the public from 8:00AM to 4:30PM Monday through Friday, and Saturdays 9:00AM to 3:30PM (April – September).

The Facility's footprint is approximately 8.7 acres with approximately 32% of those acres having impermeable surface, which include the sorting area, product bins, woody debris area and the two buildings (office and maintenance shop). The remaining pervious areas generally consist of compacted gravel and stockpiles.

Regarding stormwater management, the Facility has segmented the site into five separate sub-basins and four stormwater settling ponds. Except for a single catch basin within the employee parking area, there is no collection system beyond the four stormwater settling ponds and a few designed/constructed earthen channels near the topsoil and inert stockpiles. Stormwater that isn't infiltrated generally travels as sheet flow towards the settling ponds. Industrial activities generally occur throughout the site, as materials are stored/managed, processed, and transported in all site locations. See **Attachment B**, Site Layout.

We began the inspection walk-through just outside of the main office, near the scale entrance within Sub-basin 1. For the walk through, we generally observed each drainage area/sub-basin, locations of industrial activities and the associated stormwater discharge location. Photographs taken during the site-walk through are attached to this inspection report as **Attachment C**, Photograph Log.

Walk-Through Observations:

Location: Sub-Basin 1

Observation #: OB-01

We first observed the main scale area within Sub-Basin 1 (SB-1) (**Photo 1**), Mr. Raichl discussed that each incoming/delivery load is required to stop at the scale and the driver is required to provide certified "paperwork" (a completed asbestos survey) for construction debris/demolition loads. It was discussed that the Facility primarily receives materials for recycling from a local waste management company, Recology (approximately 3-

12 trucks/bins each day), as well as materials from local contractors and the general public. At the time of inspection, stormwater near the scale generally appeared to infiltrate within the permeable areas around the scale and office area. No staining/sheens were observed.

North of the scale area within SB-1, we observed the Facility's maintenance shop. Mr. Raichl discussed that the maintenance shop is shared with a separate entity but same ownership, Custom Excavating by Dean Larson, Inc., located north of the of Facility. We observed a "chipper" that was parked on the concrete pad to the west of the maintenance shop (**Photo 2**). According to Mr. Raichl, the "chipper" was being temporarily staged awaiting a new/replacement engine. No staining/sheens were observed around the staged equipment. Stormwater was generally observed to infiltrating within the permeable areas south of the concrete pad, a few small areas of ponding were also observed.

We continued the walk-through east, along the northwest perimeter towards the "chipping area" (**Photo 3**). According to Mr. Raichl, mechanical wood chipping occurs within this area and as well as stockpiling sorted wood debris that will be used for chipping. Wood chips are then temporarily stored before they are loaded and hauled to a paper mill in Wauna, Washington. On the western edge of the chipping area, the Facility utilizes a shipping container to store additional spill kits, absorbents, and other spill response items/tools (**Photo 4**).

We continued east through the "chipping area" and observed the concrete pad (**Photo 5**) and permeable areas south of the pad, including portions of the hogfuel processing/stockpile area (**Photo 6 & Photo 7**). The Facility can process approximately 500 yards/day of hogfuel which also gets hauled to the paper mill in Wauna, Washington. Bark is received from a nearby lumber mill and is screened/processed as economy park and then wholesaled. Mr. Raichl discussed that when received, creosote/treated lumber is now kept in bins temporarily and returned to Recology during the next delivery (likely the same day).

We also observed the northern perimeter (**Photo 8**), which includes an access road separating the industrial areas from an unnamed slough (permitted receiving water to the north). East of the concrete/impervious pad, we observed Pond 1 (**Photo 9 – Photo 11**). Pond 1 was observed to be constructed with rows of rock/gravel extending across the pond, separating the pond into five separate chambers. Oil absorbant "snakes" were extended across the pond to remove floatable oil/grease, a "bio-bag" and mesh guard was placed around the pond's discharge pipe. I also observed oil absorbant pads placed within the cells.

At the time of inspection, Pond 1 was receiving stormwater as sheet flow from the areas north of the hogfuel processing/stockpile area, influent stormwater was observed to be turbid as it entered the pond. A "bio-bag" had been placed in the influent channel (southwest corner).

Mr. Raichl discussed that Pond 1's receiving water to the north (unnamed slough) is tidally influenced and when "King Tides" are observed, the unnamed slough will occasionally overflow over the northern perimeter access road and flood Pond 1. Mr. Raichl explained that he believed this was due to a known Tide Gate issue, where the unnamed slough discharges to the Lewis and Clark River. According to Mr. Raichl, this overflow had most recently occurred 1-2 weeks prior, around the Christmas holiday.

Mr. Raichl believed the Facility had most recently performed maintenance on Pond 1 the week prior. Maintenance was believed to include replacing the absorbant materials and fixing the bio-bag associated with the discharge pipe. Mr. Raichl discussed that the recent maintenance would've been documented in the most recent facility inspection report, which would be available within the Facility office. We then crossed the access road to the north and observed the Pond 1 discharge/monitoring location (DP001). DP001 appeared to be discharging slightly, the discharge was observed to be clear with no sheen (**Photo 12 & Photo 13**).

We continued the walk-through east along the access road and observed the northern portion of topsoil and inert storage areas. The Facility maintains a vegetated (grass) channel along the north end of the piles as a best management practice (BMP), a channel separates the two stockpiles (**Photo 14 – Photo 16**). Stormwater not infiltrating within these areas was directed towards the southeast corner of Pond 1.

Location: Sub-Basin 4**Observation #:** OB-02

We continued the walk-through to the eastern portion of the Facility, into Sub-Basin 4 (SB-4). SB-4 generally includes the eastern portion of the of the inerts pile, crushed concrete storage areas, Pond 4, and a wetland area south of the industrial areas. We first observed the unnamed slough from this location (**Photo 17**), as well the eastern portion of the inerts pile and the access road that separates the inerts pile from Pond 4 (**Photo 18**). The Facility has constructed a vegetated/bioswale area south of Pond 4 (**Photo 19**). Water within the vegetated/bioswale area is designed to either infiltrate or enter Pond 4. I observed “bio-bags” staked within the vegetated bioswale area and around Pond 4. An earthen berm separates Pond 4 into two separate chambers. I observed oil-absorbant “snakes” placed across both chambers and oil absorbant pads placed within Pond 4 (**Photo 20**).

We then crossed the access road to the north and observed the Pond 4 discharge/monitoring location (DP004). DP004 was discharging slightly, the discharge was observed to be clear with no sheen, foam was present at the immediate discharge point (**Photo 21 & Photo 22**).

We continued the walk-through south, towards the wetland area located in the southeast corner of the property (**Photo 23**). Mr. Raichl discussed that a wetland delineation/survey had been conducted for the area. At this location industrial areas were separated from the wetland by perimeter blocks. Standing water and flagging was observed within portions the wetland area. Within SB-4, the area was generally sloped towards the industrial areas and away from the wetland areas.

Location: Sub-Basin 2**Observation #:** OB-03

We continued the walk-through southwest, into Sub-Basin 2 (SB-2). SB-2 generally includes Pond 2 and the southeast industrial areas of the Facility, primarily material stockpiles and a designated screening area. We first observed a rock/gravel stockpile area within the eastern portion of SB-2 (**Photo 24**) as well as another stockpile area east of Pond 2 (**Photo 25 & Photo 26**). We continued west and observed the southern perimeter (**Photo 27**) and processing screening area west of Pond 2. Staining/sheens were observed on the surface near a front loader that was parked at the location (**Photo 28 & Photo 29**).

We continued to Pond 2, located along the east side of a Facility access road to Highway 101 Alternate (**Photo 30**). Pond 2 generally serves the areas north and northeast of Pond 2 (**Photo 31 & 32**). Ecology blocks were placed around the perimeter of the pond, I observed oil absorbant “snakes” placed across the pond with “bio-bags” placed in the north and northwest perimeter, oil absorbant pads were also placed within the pond (**Photo 33**). Pond 2 baffles were observed to need maintenance. When viewing the Pond 2 discharge into the roadside ditch (DP002), the discharge appeared to be turbid (**Photo 34**). I observed stormwater entering Pond 2 from a southeast area, near the pond’s outfall structure. I discussed that stormwater entering the pond near the outfall structure could potentially impact the turbidity seen at the DP002, as the pond could be “short-circuiting” where the settling in the pond is limited and BMP’s within the pond aren’t fully utilized.

Mr. Raichl discussed that the Facility had also purchased and installed “bio-char filter socks” at the Pond 2 outfall structure, oyster shells were also being utilized within the Pond and were stockpiled south of the pond (**Photo 35 & Photo 36**). From this area we also observed the Pond 2 receiving water, the roadside ditch along Highway 101 Alternate (**Photo 37 & Photo 38**). We continued west and observed areas north/west of Pond 2 (**Photo 39**), including designated product/landscape material storage areas, where products (i.e., topsoil) are available for commercial/public sale. Many products/materials were tarped at the time of inspection (**Photo 40**).

Location: Sub-Basin 3**Observation #:** OB-04

We continued the walk-through west into Sub-Basin 3 (SB-3), primary industrial activities occurring within SB-3

include the mixed construction debris receiving and sorting area. A portion of SB-3 is impervious, as sorting and separating occurs on a large concrete pad. Stormwater within SB-3 is either infiltrated or designed to enter Pond 3 as sheet flow. Pond 3 is located on the Facility's southern perimeter and discharges to the roadside ditch along Highway 101 Alternate.

Within SB-3, we first observed the Facility's air separator, an EDGE MC1400 Material Classifier (**Photo 41**) used to remove/classify material such as rock. According to Mr. Raichl, the Facility had previously used a "water separator" made by Flocait which was taken off-line and removed approximately 3 years ago. While viewing the air separator location, I observed staining/sheens on the surface downslope of the device (**Photo 42 & Photo 43**). According to Mr. Raichl, sheens observed are likely the result routine maintenance performed on the machine, as equipment such as the air separator have set maintenance schedules and receive grease applications at various points every 8-hours of run time. At the time of inspection, stormwater flowing from this area was observed to be traveling downslope towards Pond 3. We also observed stormwater from the receiving/sorting area traveling south towards Pond 3 (**Photo 44**).

We then observed Pond 3 (**Photo 45**), which was receiving stormwater at the northwest corner of the pond (**Photo 46**), primarily from the receiving/sorting area. Pond 3 was constructed with 2 cells/chambers separated by an earthen berm with a PVC pipe allowing flow between. I observed oil absorbent "snakes" placed across the pond as well as oil absorbent pads placed within the cells (**Photo 47**). We observed the Pond 3 discharge (DP003) into the roadside ditch along Highway 101 Alternate as well as the upstream and downstream portions of the roadside ditch (**Photo 48 & Photo 49**). The discharge pipe was partially submerged within the roadside ditch, turbid water was observed within the ditch (upstream/downstream) as well as at discharge point. No sheen was observed. We further observed Pond 3's influent flow from the receiving/sorting area and air separator area (**Photo 50**).

We continued north to the receiving/sorting area (**Photo 51**), at the time of inspection the Facility was receiving/sorting a bin of mixed construction debris/material from Recology at the time of inspection. We also observed temporary storage bins staged within the area, stormwater from this area was observed to be ponded or traveling downslope towards Pond 3 as sheet flow.

Location: Material Storage Area (Maintenance Shop)

Observation #: OB-05

Our walk-through continued north as we returned to maintenance shop; we followed Mr. Raichl inside the maintenance shop to observe the lubricant/material storage areas for various products that are used/stored on-site. Within one of the garage bay's (north bay) we observed bulk storage totes of motor oil, power steering fluid, hydraulic fluid, antifreeze and gear oil (**Photo 52 – Photo 56**). Storage totes were placed above secondary containment pallets within the enclosed/indoor maintenance shop.

Mr. Raichl then led us to another garage bay within the maintenance shop where he displayed the various greasing agents used on the outdoor machinery. Greasing agents included "Chevron Delo®," "Chevron Starplex®" and "Bio-High Temp 180" (**Photo 57- Photo 59**). Mr. Raichl discussed that the Bio-High Temp 180 product was believed to be biodegradable product and had been recently incorporated into Facility maintenance operations.

Location: Pond 3 Discharge

Observation #: OB-06

Prior to departing the Facility, as part of the closing conference (following the Facility walk-through and records review) I requested that we return to the Pond 3 discharge location (DP003) to potentially collect effluent samples as part of the EPA inspection. Mr. Raichl agreed to the sampling request, and we returned to the Pond 3 discharge location following the closing conference (**Photo 60**). No samples were ultimately collected as the Pond 3 discharge pipe was observed to be partially submerged within the roadside ditch and upstream flow from the roadside ditch was observed to be partially entering into the discharge pipe, preventing the collection of a sample

representative of only the Pond 3 discharge. We discussed with Mr. Raichl and then departed the Facility.

SECTION III – RECORDS REVIEW

Record: Storm Water Pollution Control Plan (SWPCP)

Ref #: RR-001

A copy of the Facility's SWPCP was on-site and available for review at the time of inspection. An electronic version of the SWPCP was also provided pre-inspection by ODEQ (**Attachment D**). The SWPCP was dated July 27, 2022, and was most recently submitted to ODEQ in April of 2023. The SWPCP was prepared by Robert S. Bogar, M.S. (consultant). The SWPCP included the applicable elements required/discussed within Schedule A, Part 10 of the permit. The SWPCP also included an attached Site Layout Map, Pond BMP Diagram(s), and a Spill Prevention and Response Plan.

Record: Site Inspection Reports

Ref #: RR-002

Monthly site inspections for permit compliance are conducted primarily by Ms. Marriot. Inspections are documented using a checklist created by the Facility, which include specific sections for each of the Facility's sediment ponds (including discharges), as well as for industrial areas within the "yard" area. It was discussed by Ms. Marriott that in addition to the monthly site inspection, the checklist is used throughout the calendar month to also indicate the date of the visual observation, monthly rain total, and BMP/maintenance performed.

Inspection reports were on-site and available for review at the time of inspection. I reviewed monthly site inspection reports for 2023, 2022, and 2021. In addition, Ms. Marriott provided me with printed copies of 2023 the inspection reports. The permit requires that all records (including inspection reports) be retained by the permittee for a least three years. The most recent monthly site inspection was documented the week prior to the inspection, on 12/27/2023 (**Attachment E**). Previous inspections were also documented on 11/30/2023, 10/26/2023, 9/26/2023, 8/23/2023, 7/17/2023, 6/06/2023, 5/30, 2023, 4/20/2023, 3/28/2023, 2/20/2023, 1/31/2023, 12/26/2022, 11/30/2022, 10/21/2022, 9/28/2022, 8/31/2022, 7/29/2022, 6/29/2022, 5/31/2022, 4/20/2022, 3/30/2022, 2/16/2022, 1/31/2022, 12/30/2021, 11/25/2021, 10/30/2021, 9/20/2021, 8/19/2021, 7/23/2021, 6/24/2021, 5/27/2021, 4/27/2021, 3/29/2021, 2/22/2021, 1/31/2021.

Site inspection reports were complete, corrective action items were documented and marked complete once addressed. BMP and pond maintenance activities performed by the Facility were documented throughout the month on the second page of the corresponding inspection report/checklist. The month's visual observation date was also listed on the site inspection report. For 2023, Visual observations were made on 12/4/2023, 11/13/2023, 10/17/2023, 9/19/2023, 8/29/2023, 7/24/2023, 6/19/2023, 5/5/2023, 4/21/2023, 3/10/2023, 2/6/2023, 1/16/2023.

BMP maintenance was last documented as occurring the week prior to the inspection, on 12/28/2023. Maintenance included adding more oyster shells to Pond 2 and Pond 3, replacing, and adding a "bio-char" bag to Pond 2, changing "soakers" within Pond 1, fixing a Pond 1 bio-bag, cleaning the Pond 1 mesh guard (outlet pipe) and removing hogfuel from within Pond 1. Additional BMP/maintenance activities that were documented in December 2023, included changing "soakers" within Pond 1, Pond 2, and Pond 3 on 12/4/2023, the removal of "two scrap metal loads" on 12/7/2023, yard clean-up including stabilizing stockpiles on 12/8/2023, changing "soakers" in all ponds on 12/12/2023, changing "snakes" in Pond 1 on 12/21/2023, and the pick-up of blown garbage from a windstorm on 12/26/2023. The December 2023 site inspection report also indicated 14-inches of rain for the month.

Record: Discharge Monitoring Data & Tier I Reports

Ref #: RR-003

Stormwater monitoring/analytical data was reviewed as part of this inspection. As discussed earlier in this report, the Facility is subject to the sector specific requirements identified in Schedule E of the 1200-Z Permit (Sector N – Scrap and Waste Materials). Monitoring requirements for Sector N, include benchmark sampling for Chemical Oxygen Demand (COD) and Total Aluminum. As the Facility discharges to the Columbia River watershed, statewide benchmark sampling is required for Total Copper, Total Lead, Total Zinc, pH, and Total Suspended Solids (TSS). See **Attachment A**, ODEQ Issued Monitoring Requirements Letter. Prior to current permit term, the Facility also had monitoring requirements for other parameters, including Total Iron.

The Facility collects effluent samples from each of their four stormwater ponds. Samples are primarily collected by Mr. Raichl. pH analysis occurs in-house by Ms. Marriott, using a Yimmik pH testing probe. pH results are documented within a “pH Field Notes” document maintained by the Facility. When reviewing the pH Field Notes documentation, I observed that the Facility wasn’t recording the time of the pH sample analysis, I discussed that it should be recorded to ensure that the 15-minute hold time is being met. It was discussed that the pH testing probe is regularly calibrated using a 3-point calibration. pH meter calibrations are recorded within a calibration log maintained by the Facility.

For all other parameters, the Facility utilizes contract laboratory ALS Environmental, located in Kelso, Washington. Once analyzed, sample results are sent electronically to the Facility and complied by Ms. Marriott for submittal to ODEQ in the form of Discharge Monitoring Reports (DMR). If a benchmark value is exceeded, Ms. Marriott completes a Tier I Report utilizing the ODEQ template. Completed Tier I Reports were also requested/reviewed as part of this inspection, including for 2023, 2022, and 2021 (**Attachment F**). It was discussed that the most recent sampling event had occurred on December 4, 2023. The following benchmark exceedances were noted in 2023, 2022, 2021 while reviewing Discharge Monitoring Data and completed Tier I Reports:

Sample Date:	Outfall Location:	Parameter:	Reported Value:	Benchmark Value:
12/4/2023	Pond 2	Total Aluminum	1.30 mg/L	1.10 mg/L
11/13/2023	Pond 2	Total Aluminum	2.61mg/L	1.10 mg/L
11/13/2023	Pond 3	Total Aluminum	1.26 mg/L	1.10 mg/L
11/13/2023	Pond 3	Chemical Oxygen Demand	120 mg/L	120 mg/L
4/21/2023	Pond 2	Total Aluminum	3.61 mg/L	1.10 mg/L
4/21/2023	Pond 2	Chemical Oxygen Demand	198 mg/L	120 mg/L
4/21/2023	Pond 4	Chemical Oxygen Demand	149 mg/L	120 mg/L
4/21/2023	Pond 4	Total Aluminum	1.87 mg/L	1.10 mg/L
3/10/2023	Pond 2	Total Aluminum	7.41 mg/L	1.10 mg/L
3/10/2023	Pond 2	Total Suspended Solids	170 mg/L	100 mg/L
3/10/2023	Pond 2	Chemical Oxygen Demand	241 mg/L	120 mg/L
3/10/2023	Pond 3	Total Aluminum	9.97 mg/L	1.10 mg/L

Sample Date:	Outfall Location:	Parameter:	Reported Value:	Benchmark Value:
3/10/2023	Pond 3	Total Copper	0.040 mg/L	0.023 mg/L
3/10/2023	Pond 3	Total Suspended Solids	272 mg/L	120 mg/L
3/10/2023	Pond 4	Chemical Oxygen Demand	159 mg/L	120 mg/L
3/10/2023	Pond 4	Total Aluminum	4.34 mg/L	1.10mg/L
12/29/2022	Pond 2	Total Aluminum	1.83 mg/L	1.10 mg/L
12/05/2022	Pond 2	Total Aluminum	6.62 mg/L	1.10 mg/L
12/05/2022	Pond 2	Chemical Oxygen Demand	149 mg/L	120 mg/L
12/05/2022	Pond 4	Chemical Oxygen Demand	228 mg/L	120 mg/L
4/12/2022	Pond 1	Total Aluminum	1.17 mg/L	1.10 mg/L
4/12/2022	Pond 2	Total Aluminum	2.70 mg/L	1.10 mg/L
4/12/2022	Pond 3	Total Aluminum	2.97 mg/L	1.10 mg/L
4/12/2022	Pond 4	Total Aluminum	1.18 mg/L	1.10 mg/L
4/12/2022	Pond 4	Chemical Oxygen Demand	232 mg/L	120 mg/L
2/14/2022	Pond 2	Total Aluminum	5.86 mg/L	1.10 mg/L
2/14/2022	Pond 3	Chemical Oxygen Demand	202 mg/L	120 mg/L
2/14/2022	Pond 3	Total Aluminum	11.00 mg/L	1.10 mg/L
2/14/2022	Pond 3	Total Suspended Solids	358 mg/L	100 mg/L
2/14/2022	Pond 3	Total Copper	0.031 mg/L	0.023 mg/L
12/13/2021	Pond 2	Total Aluminum	4.59 mg/L	1.10 mg/L
12/13/2021	Pond 2	Chemical Oxygen Demand	283 mg/L	120 mg/L
11/10/2021	Pond 2	Total Suspended Solids	164 mg/L	100 mg/L
11/10/2021	Pond 2	Total Copper	0.039 mg/L	0.023 mg/L
11/10/2021	Pond 2	Total Aluminum	10.80 mg/L	1.10 mg/L

Sample Date:	Outfall Location:	Parameter:	Reported Value:	Benchmark Value:
11/10/2021	Pond 2	Chemical Oxygen Demand	209 mg/L	120 mg/L
11/10/2021	Pond 3	Total Aluminum	8.98 mg/L	1.10 mg/L
11/10/2021	Pond 3	Chemical Oxygen Demand	155 mg/L	120 mg/L
11/10/2021	Pond 3	Total Suspended Solids	290 mg/L	100 mg/L
11/10/2021	Pond 3	Total Copper	0.027 mg/L	0.023 mg/L
11/10/2021	Pond 4	Chemical Oxygen Demand	514 mg/L	120 mg/L
11/10/2021	Pond 4	Total Suspended Solids	142 mg/L	100 mg/L
05/28/2021	Pond 1	Chemical Oxygen Demand	174 mg/L	120 mg/L
05/28/2021	Pond 1	Total Iron	4.19 mg/L	1.0 mg/L
05/28/2021	Pond 2	Chemical Oxygen Demand	180 mg/L	120 mg/L
05/28/2021	Pond 2	Total Iron	4.13 mg/L	1.0 mg/L
05/28/2021	Pond 3	Chemical Oxygen Demand	173 mg/L	120 mg/L
05/28/2021	Pond 3	Total Iron	4.13 mg/L	1.0 mg/L
05/28/2021	Pond 4	Chemical Oxygen Demand	174 mg/L	120 mg/L
05/28/2021	Pond 4	Total Iron	4.07 mg/L	1.0 mg/L
04/26/2021	Pond 1	Total Iron	5.90 mg/L	1.0 mg/L
04/26/2021	Pond 2	Total Iron	2.0 mg/L	1.0 mg/L
04/26/2021	Pond 3	Total Iron	8.52 mg/L	1.0 mg/L
04/26/2021	Pond 3	Chemical Oxygen Demand	130 mg/L	120 mg/L
04/26/2021	Pond 4	Total Iron	2.0 mg/L	1.0 mg/L

Record: Facility Logs**Ref #:** RR-004

At the time of inspection, I also reviewed additional logs kept by the Facility, including a Yard Watering Log, Shop Spill Log, and a Truck Wash Log and an Employee Training Log. The Watering Log is used to document a water truck usage on-site, to minimize the generation of dust during the summer months. A Shop Spill Log is kept to document spills and associated clean-ups, it was discussed that spill kits are kept in every machine/truck. The Truck Wash Log is kept documenting on-site truck washing, no more than eight trucks are washed per week and no detergents/hot water is used. It was discussed that the Facility routinely uses Blue Beacon Truck Wash, off Interstate-5 for to wash some of their vehicles while dispatched. The Facility maintains an employee training log, employees are trained on stormwater topics and the SWPCP. Stormwater training is a component of quarterly meetings as well as weekly meetings.

SECTION V - AREAS OF CONCERN

Areas of Concern may not be in sequential order.

The presentation of Areas of Concern (AOC) does not constitute a formal compliance determination or violation.

AOC #1: Pond 3

Regulation and/or Permit Requirement:

Schedule A.1.a. within the permit states: "Minimize exposure of manufacturing, processing, material storage areas, loading and unloading, disposal, cleaning, maintenance and fixed fueling areas to rain and snow, snowmelt and runoff. To the extent technologically available, and economically practicable and achievable in light of best industry practice, the permit registrant must do the following: i. Locate materials and activities indoors or protect them with storm resistant covers if stormwater from affected areas may discharge to surface waters. Acceptable covers include permanent structures such as roofs or buildings or properly secured temporary covers such as tarps; ii. Use grading, berming or curbing to divert stormwater away from these areas and prevent stormwater contamination."

Schedule A.1.i within the permit states: "Clean, maintain, and repair all control measures, including stormwater structures and temporary measures, catch basins, and treatment facilities to ensure effective operation as designed and in a manner that prevents the discharge of pollution."

Observations:

As discussed earlier in this report, during the walk-through within Sub-Basin 3, turbid stormwater from the receiving/sorting area was observed to be ponded or traveling downslope into Pond 3 as sheet flow (**Photo 44, Photo 51**). Turbid stormwater and sheens were also observed near the separating area (air separator) and was observed to flowing towards Pond 3. Stormwater entering/exiting Pond 3 was observed to be turbid.

Absorbent "snakes" and absorbent pads contained within the pond appeared in need of maintenance. According to the SWPCP, wood staked bio-bags are to be installed along the north end of Pond 3, no bio-bags were observed at Pond 3 at the time of inspection. According to the December 2023 Site Inspection Report, "soakers" were last replaced in Pond 3 on 12/12/2023, additional oyster shells were added to Pond 3 on 12/28/2023.

As discussed earlier in this report, according to Facility monitoring data, discharges from Pond 3 have exceeded the benchmark values for Total Aluminum, Total Copper, Total Suspended Solids and Chemical Oxygen Demand.

The concern is the observed turbid influent/effluent of Pond 3 and potential lack of stormwater controls to prevent/divert stormwater away from the receiving/sorting/separating areas to prevent stormwater contamination. Based upon the observed turbidity and Pond 3 benchmark exceedances, current BMPs, corrective actions and/or the maintenance schedule utilized by the Facility may not be sufficient.

AOC #2: Pond 1**Regulation and/or Permit Requirement:**

Schedule A.1.a. within the permit states: “Minimize exposure of manufacturing, processing, material storage areas, loading and unloading, disposal, cleaning, maintenance and fixed fueling areas to rain and snow, snowmelt and runoff. To the extent technologically available, and economically practicable and achievable in light of best industry practice, the permit registrant must do the following: i. Locate materials and activities indoors or protect them with storm resistant covers if stormwater from affected areas may discharge to surface waters. Acceptable covers include permanent structures such as roofs or buildings or properly secured temporary covers such as tarps; ii. Use grading, berming or curbing to divert stormwater away from these areas and prevent stormwater contamination.”

Schedule A.1.i within the permit states: “Clean, maintain, and repair all control measures, including stormwater structures and temporary measures, catch basins, and treatment facilities to ensure effective operation as designed and in a manner that prevents the discharge of pollution.”

Observation:

As discussed earlier in this report, during the walk-through within Sub-Basin 1, turbid stormwater from the hogfuel area was observed to be ponded or traveling downslope into Pond 1 as sheet flow (**Photo 9**). Water within the Pond appeared turbid, absorbent “snakes” and absorbent pads contained within the pond appeared in need of replacement (**Photo 11**). A rock baffle within Pond 1 appeared to need maintenance (**Photo 10**). According to the December 2023 Site Inspection Report, on 12/28/2023, Pond 1 “soakers” were replaced, the mesh guard was cleaned, hogfuel was removed and the bio-bag was repaired.

The concern is the condition of the Pond 1 BMPs after receiving maintenance the week prior. In addition, the potential lack of stormwater controls to prevent/divert stormwater away from the hogfuel areas to prevent stormwater contamination. Current BMPs and/or the maintenance schedule utilized by the Facility may not be sufficient to prevent the discharge of pollution.

AOC #3: Pond 2**Regulation and/or Permit Requirement:**

Schedule A.1.a. within the permit states: “Minimize exposure of manufacturing, processing, material storage areas, loading and unloading, disposal, cleaning, maintenance and fixed fueling areas to rain and snow, snowmelt and runoff. To the extent technologically available, and economically practicable and achievable in light of best industry practice, the permit registrant must do the following: i. Locate materials and activities indoors or protect them with storm resistant covers if stormwater from affected areas may discharge to surface waters. Acceptable covers include permanent structures such as roofs or buildings or properly secured temporary covers such as tarps; ii. Use grading, berming or curbing to divert stormwater away from these areas and prevent stormwater contamination.”

Schedule A.1.i within the permit states: “Clean, maintain, and repair all control measures, including stormwater structures and temporary measures, catch basins, and treatment facilities to ensure effective operation as designed and in a manner that prevents the discharge of pollution.”

Observation:

As discussed earlier in this report, during the walk-through within Sub-Basin 2, the Pond 2 baffles, absorbent “snakes” and absorbent pads contained within the pond appeared in need of maintenance. Stormwater was observed to be entering Pond 2 from a southeast area, near the pond’s outfall structure, potentially “short-circuiting” the pond’s settling ability. Stormwater exiting Pond 2 was observed to be turbid. According to the SWPCP, wood staked bio-bags are to be installed along the north end of Pond 2, no bio-bags were observed at

Pond 2 at the time of inspection. According to the December 2023 Site Inspection Report, “soakers” were last replaced in Pond 2 on 12/12/2023. On 12/28/23, additional oyster shells were added, the “bio-char” bag was replaced and an additional “bio-char” bag was added.

As discussed earlier in this report, according to Facility monitoring data, discharges from Pond 2 have exceeded the benchmark values for Total Aluminum, Total Copper, Total Suspended Solids and Chemical Oxygen Demand.

The concern is the observed turbid effluent of Pond 2 and the potential lack of stormwater controls to prevent/divert stormwater away from the screening area to prevent stormwater contamination. Based upon the observed turbidity and Pond 2 benchmark exceedances, current BMPs, corrective actions and/or the maintenance schedule utilized by the Facility may not be sufficient to prevent the discharge of pollution.

AOC #4: Staining/Sheens Observed

Regulation and/or Permit Requirement:

Schedule A.1.a. within the permit states: “Minimize exposure of manufacturing, processing, material storage areas, loading and unloading, disposal, cleaning, maintenance and fixed fueling areas to rain and snow, snowmelt and runoff. To the extent technologically available, and economically practicable and achievable in light of best industry practice, the permit registrant must do the following: i. Locate materials and activities indoors or protect them with storm resistant covers if stormwater from affected areas may discharge to surface waters. Acceptable covers include permanent structures such as roofs or buildings or properly secured temporary covers such as tarps; ii. Use grading, berming or curbing to divert stormwater away from these areas and prevent stormwater contamination; iii. Locate materials, equipment and activities in containment and diversion systems, including the storage of leaking or leak-prone vehicles and equipment awaiting maintenance, to prevent leaks and spills from contaminating stormwater; iv. Use drip pans or absorbents under or around leaking or leak-prone vehicles/equipment or store indoors.”

Schedule A.1.h.i within the permit states: “Clean up spills or leaks promptly using absorbents or other effective methods to prevent discharges of pollutants and use spill/overflow protection equipment.”

Schedule A.1.i within the permit states: “Regularly inspect, clean, maintain, and repair all industrial equipment and systems and materials handling and storage areas that area exposed to stormwater to avoid situations that may result in leaks, spills, and other potential releases of pollutants discharged to receiving waters.”

Observation:

As discussed earlier in the report, during the walk-through within Sub-Basin 2 staining/sheens were observed on the surface near a front loader (**Photo 28 & Photo 29**). During the walk-through of Sub-Basin 3, while viewing the air separator location, I observed staining/sheens on the surface downslope of the device (**Photo 42 & Photo 43**).

The concern is the staining/sheens at the observed locations. In addition, at the time of inspection Mr. Raichl discussed that sheens are frequently observed around the air-separator device, likely related to the frequency of the scheduled maintenance of the device (grease applications) and the exposure to stormwater.

AOC #5: Benchmark Exceedances

Observation:

As discussed earlier in this report, according to Facility monitoring data, discharges from the Facility have been reported to exceeded benchmark values on 50 occasions between 2023-2021.

The concern is the frequency of the reported benchmark exceedances. Corrective actions, BMPs and/or the maintenance schedule utilized by the Facility have not been effective in eliminating the frequency of the benchmark exceedances.

SECTION VI – CLOSING CONFERENCE

Closing Conference

Following the walk-through and records review a closing conference was held with Mr. Raichl and Ms. Marriott. I discussed my general observations, areas of concern and follow-up items, including potentially collecting effluent samples from Pond 3 as part of the EPA inspection. I then thanked them for their time and assistance during the inspection and we departed the Facility's main office.

As discussed earlier in this report, no samples were ultimately collected following the closing conference, as the Pond 3 discharge pipe was observed to be partially submerged within the roadside ditch and upstream flow from the roadside ditch was observed to be partially entering into the discharge pipe, preventing the collection of a sample representative of only the Pond 3 discharge. We discussed our observation of the discharge pipe with Mr. Raichl and then departed the Facility.

SECTION VII – POST INSPECTION CORRESPONDENCE

On January 4, 2024, the Facility provided electronic copies of analytical results for 2023 (as discussed during the records review). On January 10, 2024 the Facility provided documentation of responses actions to items discussed at the time of inspection. See **Attachment G**, Inspection Response Documentation.

SECTION VIII – LIST OF APPENDICES

- Attachment A – ODEQ Issued Monitoring Requirements Letter
- Attachment B – Site Layout
- Attachment C – Photograph Log
- Attachment D – Stormwater Pollution Control Plan (SWPCP)
- Attachment E – December 27, 2023, Site Inspection Report (Monthly)
- Attachment F – Tier I Reports (2023, 2022, 2021)
- Attachment G – Inspection Response Documentation

ATTACHMENT A

ODEQ Issued Monitoring Requirements Letter



Oregon

Kate Brown, Governor

Department of Environmental Quality
Northwest Region Portland Office/Water Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232
(503) 229-5263
FAX (503) 229-6957
TTY 711

May 27, 2021

DEAN LARSON
CUSTOM EXCAVATING BY DEAN LARSON INC.
2060 SE AIRPORT LN
WARRENTON, OR 97146-7401

RE: Issuance NPDES Permit Number 1200-Z
File Number: 112084 EPA Number: ORR127194
Facility: TRAILS END RECOVERY, 2060 AIRPORT LN, WARRENTON, CLATSOP
COUNTY
SIC Code(s): 5093, 4953

Dear Permit Registrant:

DEQ has reissued the 1200-Z, effective July 1, 2021. Attached is your revised monitoring requirements under the reissued permit, starting July 1, 2021. All monitoring waivers expire on July 1, 2021. Please review the information closely. If you identify any discrepancies in the tables, please contact me as soon as possible.

It is your responsibility to comply with the new permit conditions and monitoring requirements. DEQ will be transitioning to electronic Discharge Monitoring Reports during this permit cycle. As such, you will not receive the first page of the permit identifying your facility as registered under the renewed permit.

Please visit our industrial stormwater permits webpage to find a copy of the permit and associated documents. <https://www.oregon.gov/deq/wq/wqpermits/Pages/Stormwater-Industrial.aspx>

Respectfully,

Jenni Seven, WQ Permit Coordinator

Enclosure: Monitoring Requirements

File Number: 112084

EPA Number: ORR127194

Monitoring Requirements

You must monitor for the pollutants in the table below. If discharge to a Category 5: 303(d) listed receiving water for pH, total copper, total lead, total zinc and/or E. coli, the table below will not include statewide or sector-specific benchmarks for those pollutants. Exceedance of impairment monitoring may escalate to a water quality-based effluent limit during this permit cycle. Please read Schedule A.13 and Schedule C carefully. Tier 2 geometric mean evaluations are required annually. Please read Schedule A.12 carefully.

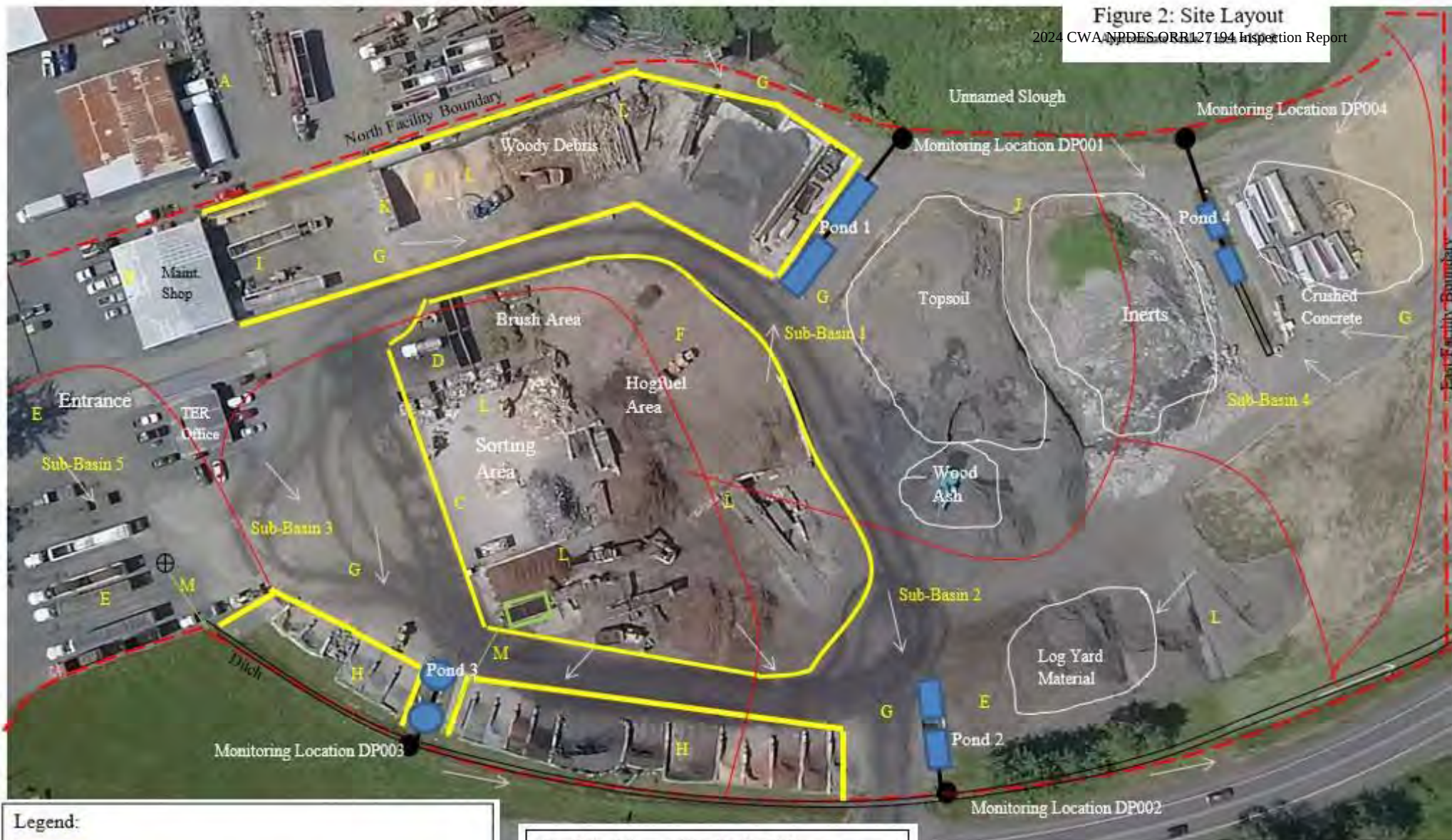
Georegion	Pollutant	Statewide Benchmark	Unit	Frequency
Columbia River	Total Copper	0.023	mg/L	Four times per year
Columbia River	Total Lead	0.21	mg/L	Four times per year
Columbia River	Total Zinc	0.35	mg/L	Four times per year
Columbia River	pH	6.0-9.0	s.u.	Four times per year
Columbia River	TSS	100	mg/L	Four times per year
SIC code of Industrial Activity	Pollutant	Sector-specific Benchmark	Units	Frequency
5093	Chemical Oxygen Demand (COD)	120	mg/L	Four times per year
5093	Total Aluminum	1.10	mg/L	Four times per year

ATTACHMENT B

Site Layout

Figure 2: Site Layout

2024 CWA NPDES ORR127194 Inspection Report



Legend:

- Concrete Impervious (Area Outlined)
- DP001-004 Discharge Point
- Ditch / Culvert / Pond
- Catch Basin
- Facility Boundary Line
- Sub Basin areas
- Surface water flow direction

Areas Keyed to Permit (7.b.i)

- (A) Diesel Tanks (B) Vehicle Maint. (C) Unloading/Loading areas
- (D) Waste Storage (E) Gravel Parking areas (F) Processing/Storage
- (G) Access Roads (H) Bulk Transfer Area (I) Truck Washing Pad (J) Spring
- (K) Spill Kit Locations (L) Machinery Locations (M) Groundwater Pipe

Facility Name: Trails End Recovery

Address: 2060 SE Airport Lane

City/State/Zip: Warrenton, OR 97146

County: Clatsop

Report: Stormwater Pollution Control Plan &
Solid Waste Operations Plan

DEQ File # 112084

Primary SIC: 5093

DEQ Permit 1200-Z #17589; Solid Waste Permit #496

Page 19 of 103

Notes

Sub-Basin 1 = 115,384 ft² (2.65 acres)
Sub-Basin 2 = 62,698 ft² (1.44 acres)
Sub-Basin 3 = 93,945 ft² (2.16 acres)
Sub-Basin 4 = 92,620 ft² (2.12 acres)
Total All Basins = 380,079 ft² (8.7 acres)

Impermeable Surfaces: Sorting Area = 52,179 ft² (1.2 acres); Product
Bins = 31,448 ft² (0.72 acres); Woody Debris = 32,289 ft² (0.74 acres);
Buildings = 5,408 ft² (0.12 acres)
Total Impermeable Surface = 121,324 ft² (32% of facility)



ATTACHMENT C

Photograph Log

All photographs taken by Jon Klemesrud on January 3, 2024

Nikon Coolpix AW100

Photograph Log – Trails End Recovery



Photo #:01 (DSCN3450)
Description: Facing east, photo of the main office building and truck scale/entry.



Photo #:02 (DSCN3451)
Description: Facing northwest, photo of the maintenance building (shared with Dean Larson Excavation). Woodchipper was staged outdoors awaiting engine replacement.



Photo #:03 (DSCN3452)
Description: Facing east, photo of chipping area. Wood is processed in this area into “chips” and hauled to a nearby papermill in Wauna, WA.

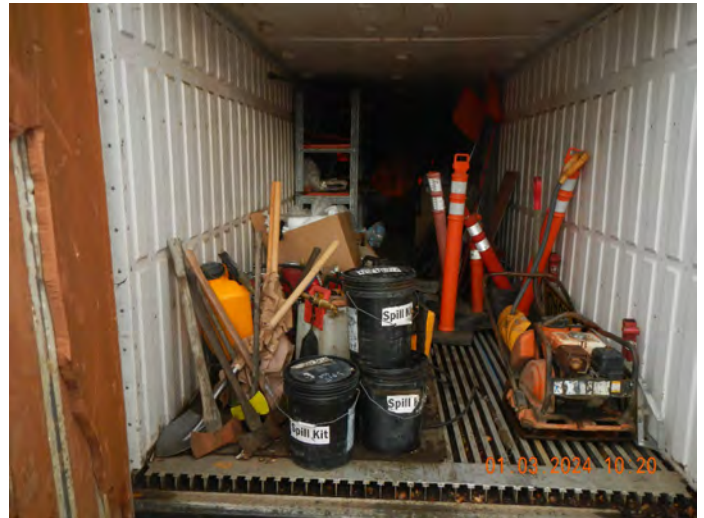


Photo #:04 (DSCN3453)
Description: Facing north, photo of additional spill kits and absorbent materials used for re-supply. Items are stored in a closed shipping container east of the maintenance shop. It was discussed that spill kits are also contained within each vehicle.

Photograph Log - Trails End Recovery



Photo #:05 (DSCN3454)
Description: Facing east, photo of staged woodchipper.



Photo #:06 (DSCN3455)
Description: Photo of wood debris storage/processing area. The wood product is brought in from Recology and processed on-site as hog fuel and hauled daily to a paper mill in Wauna, WA.



Photo #:07 (DSCN3456)
Description: Facing south, photo of the hog fuel processing area.



Photo #:08 (DSCN3457)
Description: Facing east, photo of the northern boundary, north of the topsoil storage area.

Photograph Log - Trails End Recovery



Photo #:09 (DSCN3458)
Description: Facing west, photo of the western inlet to Pond 1.



Photo #:10 (DSCN3459)
Description: Facing north, photo of the Pond 1 cells/chambers.



Photo #:11 (DSCN3462)
Description: Facing south, photo of the Pond 1 cells/chambers.



Photo #:12 (DSCN3460)
Description: Facing west, photo of the Pond 1 discharge/outfall to unnamed slough. No sheen was observed at the time of inspection, discharge from the outfall was observed to be clear.

Photograph Log - Trails End Recovery



Photo #:13 (DSCN3461)

Description: Facing east, photo of the Pond 1 discharge/outfall to unnamed slough. No sheen was observed at the time of inspection, discharge from the outfall was observed to be clear.



Photo #:14 (DSCN3463)

Description: Facing east, photo of the north end of the topsoil storage area. Facility maintains the vegetated area as a BMP.



Photo #:15 (DSCN3464)

Description: Facing southwest, photo of the north/northwest end of the topsoil storage area. Facility maintains the vegetated area as a BMP.



Photo #:16 (DSCN3465)

Description: Facing south, photo of the drainage area between the topsoil pile and "intert" pile.

Photograph Log - Trails End Recovery



Photo #:17 (DSCN3466)
Description: Facing west, photo north boundary and unnamed slough.



Photo #:18 (DSCN3467)
Description: Facing south, photo of the eastern portion of the inerts pile, west of Pond 4.



Photo #:19 (DSCN3468)
Description: Facing north, photo of Pond 4.



Photo #:20 (DSCN3469)
Description: Facing north, photo of the northern cells within Pond 4.

Photograph Log - Trails End Recovery



Photo #:21 (DSCN3470)

Description: Facing east, photo of the Pond 4 discharge to the unnamed slough. No sheen observed, clear discharge. Foam observed at immediate discharge point.



Photo #:22 (DSCN3471)

Description: Photo of Pond 4 discharge to the unnamed slough. No sheen observed, clear discharge. Foam observed at immediate discharge point.



Photo #:23 (DSCN3472)

Description: Facing southwest, photo of wetland area located in the southeast corner of the property.



Photo #:24 (DSCN3473)

Description: Facing southwest, photo of rock stockpile area north/west of wetland area.

Photograph Log - Trails End Recovery



Photo #:25 (DSCN3474)
Description: Facing southwest, material stockpile area east of Pond 2.



Photo #:26 (DSCN3475)
Description: Facing north, ponded stormwater south of inerts storage area.



Photo #:27 (DSCN3476)
Description: Facing west, photo of southern boundary between the Facility's industrial activities and Highway 101 Alternate.



Photo #:28 (DSCN3477)
Description: Facing southeast, photo of sheen/staining observed near a front loader east of Pond 2.

Photograph Log - Trails End Recovery



Photo #:29 (DSCN3478)
Description: Facing south, photo of a processing/screening area. East of Pond 2.



Photo #:30 (DSCN3479)
Description: Facing south, photo of Pond 2.



Photo #:31 (DSCN3480)
Description: Facing east, photo of area east of Pond 2 and north of the processing/screening area.



Photo #:32 (DSCN3481)
Description: Facing north, photo of area north/northwest of Pond 2.

Photograph Log - Trails End Recovery



Photo #:33 (DSCN3482)
Description: Facing west, photo of Pond 2 outlet cell,



Photo #:34 (DSCN3483)
Description: Facing west, photo of Pond 2 discharge. No sheen observed, discharge appeared turbid at the time of inspection.



Photo #:35 (DSCN3484)
Description: Photo of Biochar filter socks, stored near Pond 2.



Photo #:36 (DSCN3485)
Description: Facing north, photo of Pond 2.

Photograph Log - Trails End Recovery



Photo #:37 (DSCN3486)
Description: Facing east, photo of the Pond 2 discharge to the unnamed slough.



Photo #:38 (DSCN3487)
Description: Facing west, photo of the of unnamed ditch upstream of the Pond 2 discharge location.



Photo #:39 (DSCN3488)
Description: Facing east, photo of the area north and west of Pond 2.



Photo #:40 (DSCN3489)
Description: Photo of covered stockpiled material/topsoil for commercial/public sale.

Photograph Log - Trails End Recovery



Photo #:41 (DSCN3490)

Description: Facing northeast, photo of the air separator. In service for approx. 3 years and replaced Flocait water separator.



Photo #:42 (DSCN3491)

Description: Facing northeast, photo of the air separator and processing area downslope of the air separator. Sheen/staining observed.

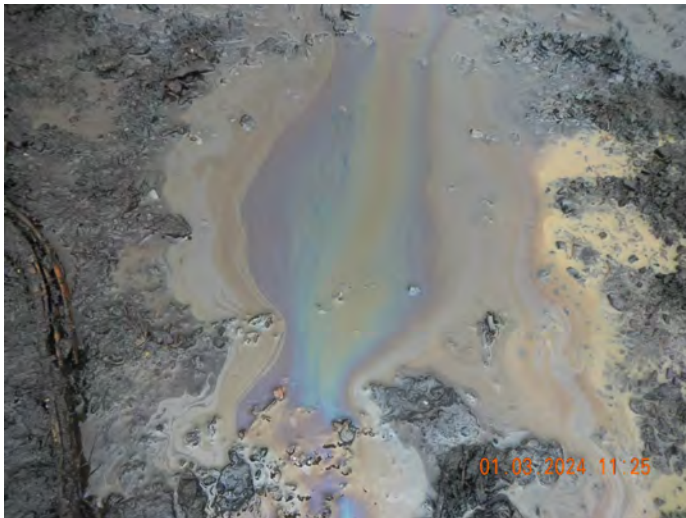


Photo #:43 (DSCN3492)

Description: Sheen/staining observed downslope of the air separator/processing area. Stormwater flowing towards Pond 3.



Photo #:44 (DSCN3494)

Description: Facing north, photo of stormwater flowing as sheet flow from the sorting/receiving area towards Pond 3.

Photograph Log - Trails End Recovery



Photo #:45 (DSCN3493)
Description: Facing south, photo of Pond 3.



Photo #:46 (DSCN3495)
Description: Facing south, photo of the influent flow into Pond 3.



Photo #:47 (DSCN3496)
Description: Facing north, photo of Pond 3.



Photo #:48 (DSCN3497)
Description: Facing west, photo of upstream location of the Pond 3 outfall, within the roadside drainage ditch.

Photograph Log - Trails End Recovery



Photo #:49 (DSCN3498)

Description: Facing east, photo of the downstream location of the Pond 3 outfall, within the roadside drainage ditch.



Photo #:50 (DSCN3499)

Description: Facing north, photo of Pond 3 and contributing drainage area.



Photo #:51 (DSCN3500)

Description: Facing west, photo of the receiving/sorting area.



Photo #:52 (DSCN3501)

Description: Photo from inside the maintenance shop, motor oil storage tote.

Photograph Log - Trails End Recovery



Photo #:53 (DSCN3502)
Description: Photo from inside the maintenance shop, power steering fluid storage tote.



Photo #:54 (DSCN3503)
Description: Photo from inside the maintenance shop, antifreeze and gear oil storage tote(s).



Photo #:55 (DSCN3504)
Description: Photo from inside the maintenance shop, hydraulic fluid storage tote.



Photo #:56 (DSCN3505)
Description: Photo from inside the maintenance shop, oil/lubricant storage area.

Photograph Log - Trails End Recovery



Photo #:57 (DSCN3506)

Description: Photo from inside the maintenance shop, grease cartridge used on on-site machinery.



Photo #:58 (DSCN3507)

Description: Photo from inside the maintenance shop, grease cartridge used on on-site machinery.



Photo #:59 (DSCN3508)

Description: Photo from inside the maintenance shop, grease cartridge used on on-site machinery.



Photo #:60 (DSCN3509)

Description: Facing west, photo of upstream location of the Pond 3 outfall, within the roadside drainage ditch.

ATTACHMENT D

Stormwater Pollution Control Plan (SWPCP)

National Pollution Discharge Elimination System
STORMWATER POLLUTION CONTROL PLAN

FOR:

Facility: Trails End Recovery
Owner: Dean Larson
Contacts: Alex Raichl and Rachel Marriott
(503) 861-6030
customex.trailsend@gmail.com

File No. 112084
EPA No. ORR127194
Primary SIC: 5093
Secondary SIC: 5261
NPDES 1200-Z Industrial Stormwater Discharge General Permit

2060 SE Airport Lane
Warrenton
Clatsop County
Oregon
97146

SWPCP Prepared By:

Robert S. Bogar, M.S.
949 14th Street
Astoria, OR 97103
&
TER

July 27, 2022

TABLE OF CONTENTS

GENERAL LOCATION.....	2
General Location Map.....	2
SITE DESCRIPTION	3
SITE CONTROLS	5
PREVENTATIVE MAINTENANCE	8
MONITORING LOCATIONS AND RECEIVING WATERS	9
EDUCATION TRAINING AND ELEMENTS	11
SIGNATURE PAGE.....	12

Figure 2: Site Map

APPENDIX A Spill Prevention and Response Plan

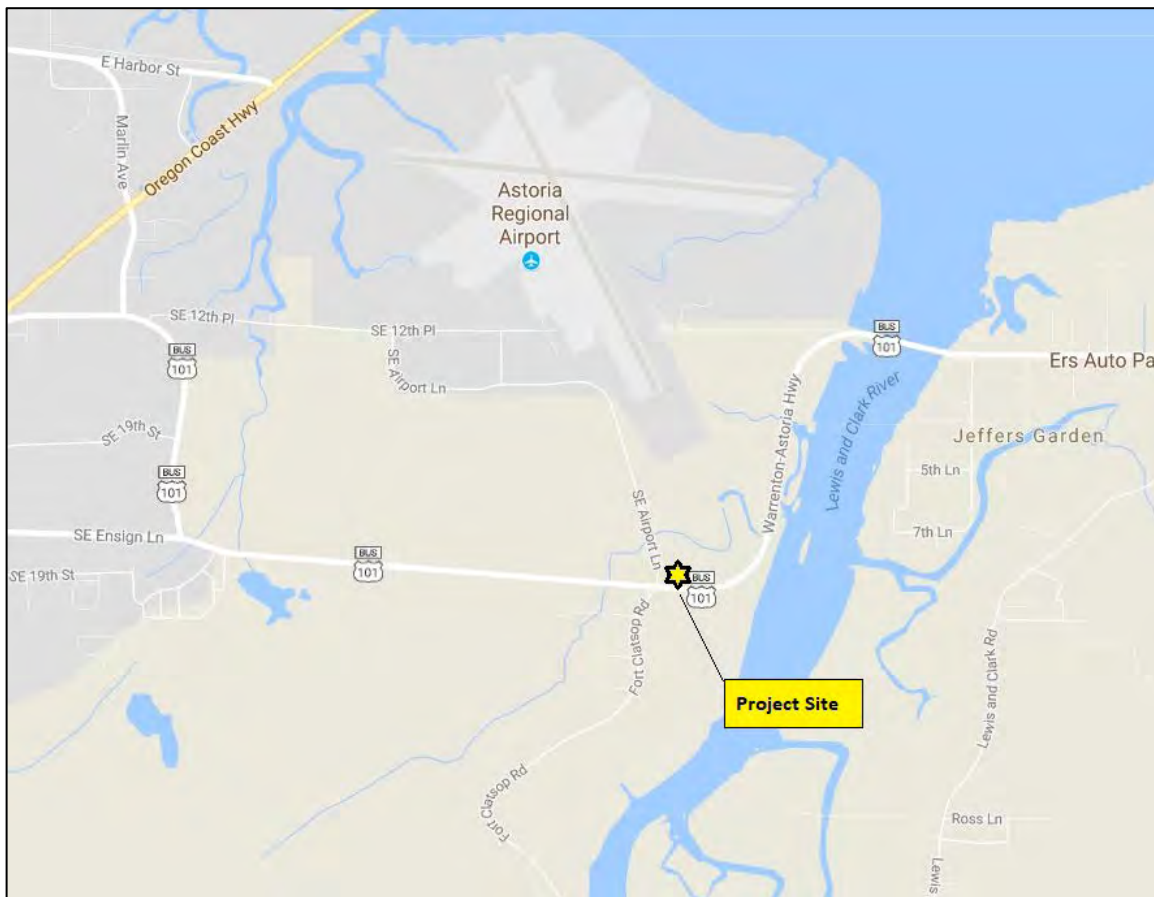
APPENDIX B Employee Education and Pond BMPs

GENERAL LOCATION

The project site is located on a topographically flat area approximately 1 mile south of Youngs Bay and less than ¼ mile west of The Lewis and Clark River. Boundaries of the property are defined by Alternate Highway 101 on the south, DOT maintained ditches and property on the west, and on the north and east by an unnamed slough. The project site covers an area of approximately 364,650 ft^2 (8.37 acres), and includes portions of Tax Lots 700, 702, 703 and 704.

The project site lies at an estimated elevation of about 15 ft. above mean sea level. Possible wetlands are located near the east portions of Sub-basin 4 at the project site. This area to the north is associated with the slough that drains surface water runoff to the east to The Lewis and Clark River.

General Location Map



SITE DESCRIPTION

Trails End Recovery (TER) is a Material Recovery and Recycling Facility and a retail landscape product supply. TER accepts clean wood, clean brush and yard debris, concrete and asphalt, treated wood products, dirty brush/land clearing debris, dirt/rock/sod, non-fluid/gas-containing appliances and other scrap metal, mixed construction debris, asphalt 3-tab roofing (not for processing), wood ash and log yard material.

The incoming trucks are weighed on a scale immediately north of the TER office building and offloaded based on the type of material brought in. For mixed construction debris, clean wood, treated wood, sheetrock, scrap metal, and asphalt roofing, sorting is conducted near the main entry to the yard (labeled “sorting area” on Figure 2). These materials are separated and processed or placed in temporary storage. Any materials that contain liquid waste, hazardous waste, or other chemicals are not accepted by TER.

Other recycling operations at the site include: various machinery is used to dry screen/separate or air screen/separate materials. TER screens/separates bark, rocks, sand, soil, and log yard material. These processes involve the separation of bark and rock, or soil and rock. After processing, the sand, rock, and boulders are marketed separately as base rock, fill material, beauty bark, mulch, hogfuel, landscape rock, flat rock, and gravel. Bark fines are screened/mixed with wood ash and composted bark and then marketed as topsoil. Some of the clean processed rock is utilized onsite to improve the working surface and to reduce soil runoff and surface water turbidity. Marketed topsoil is tested for several metals, nutrient levels (potassium, phosphorus, and nitrogen), and physical properties (bulk density, moisture content, organic and mineral fraction, etc.). Treatment of materials onsite is limited to physical separation, screening, grinding, and mixing of materials with no chemical treatment of any materials conducted onsite. The various retail products are stored in uncovered areas as shown on the attached Figure 2.

Unprocessed construction materials stored at the site include creosoted piles and treated lumber located near the north end of Sub-basin 1. Treated wood piles have been raised to prevent direct contact with the ground within 72 hours of receipt. Bulk, uncrushed concrete is stored for crushing and is utilized as the main ingredient of the concrete aggregate. The concrete pile is located near Settling Pond 4, located in Sub-basins 1 and 4 (see Figure 2).

Prior Operations

No impacts from prior operations have been noted at the facility.

Business Hours

Trails End Recovery is open to the public from 8:00 AM to 4:30 PM Monday through Friday, between April and September we are also open Saturdays 9:00 AM to 3:30 PM.

Potential Pollutants in Stormwater Discharges/Drainage Patterns

Sub-basin 1 drains to Settling Ponds 1a and 1b located toward the north side of the facility. Pond 1 accepts runoff from the hogfuel production area, creosoted pile and treated lumber storage areas, and soil storage. Potential pollutants from stored products or activities conducted in Sub-basin 1 could include; hydrocarbon contamination from creosote storage, hydraulic fluid from machinery or traffic, TSS levels from soil, or incidental plastics. Sub-basin 1 drains an area of approximately 115,384 ft² (2.65 acres) including about

49,024 ft² (1.13 acres) of impermeable surface (42% impermeable). See Figure 2.

Sub-basin 2 drains to Settling Pond 2 located near the south gate of the project site. Pond 2 accepts runoff from storage of unscreened log yard material, landscaping product areas (southwest portion), wood ash, concrete storage area and mixed wood and rock storage. Sub-basin 2 potential pollutants include TSS from exposed soil and bark or hydraulic fluid from machinery or traffic through the gate. Sub-basin 2, drains an area of approximately 62,698 ft² (1.4 acres), including about 9,092ft² (0.2 acres) of impermeable surface (14.5 % impermeable).

Sub-basin 3 drains to Settling Pond 3a and 3b and accepts runoff from the mixed construction debris sorting area, 3-tab asphalt shingles, scrap metal for recycling, a parking area near the TER office, and landscaping product storage areas. Potential pollutants from stored products or activities include turbidity from high traffic volume, incidental plastics or other materials, motor oil from the parking area, or hydraulic fluid from equipment and customer vehicles. Sub-basin 3, drains an area of approximately 93,945 ft² (2.16 acres), including about 56,759 ft² (1.3 acres) of impermeable surface (60 % impermeable). The Flocait operation would take place in Sub-Basin 3. The Flocait is currently not in use until the Flocait manual can be implemented.

Sub-basin 4 drains into the bioswale south of Settling Pond 4a and 4b. Pond 4 accepts the runoff from concrete storage area, unscreened topsoil, unscreened bark, fill dirt storage, and a small gravel parking area. Potential pollutants from stored products or activities include TSS from exposed soil, incidental plastics, or hydraulic fluid from heavy equipment or vehicles. Sub-basin 4 drains an area of approximately 92,620 ft² (2.12 acres). None of Sub-basin 4 is impermeable surface.

Sub-basin 5 is a small area west of the maintenance shop at the TER facility. Potential pollutants in this area include oil and grease from employee parked vehicles or customer vehicles. Besides the 10x10 onramp to the scale, none of Sub-basin 5 is impermeable surface. Stormwater runoff enters a catch basin and enters the roadside ditch south of the facility.

Impervious Surface Area

The two buildings utilized by TER cover a combined area of approximately 5,408 ft². The total impervious surface at the project site including the buildings and yard areas is approximately 121,324 ft² (2.78 acres) or approximately 32% of the 380,079 ft² (8.7 acres) project site (increased from 11% in November 2007, 16% in 2009 and 26% in 2014).

Non-Stormwater Discharges

Exterior vehicle wash water that does not use hot water or detergent; restricted to less than eight per week. Unless circumstances won't allow, vehicles are washed offsite.

There is one discharge point that is excluded from monitoring. In sub-basin 3, near discharge point DP003 there is a groundwater pipe that drains into the man-made roadside ditch. The pipe originates from around the perimeter of the subgrade tank as shown in Figure 2 (labeled M) to drain surrounding groundwater. This pipe only drains groundwater.

SITE CONTROLS

Stormwater Best Management Practices- Control Measures

TER has developed, implemented, and maintained stormwater controls appropriate for the project site. The purpose of these site controls is to comply with technology based effluent limits to eliminate or minimize the potential to contaminate stormwater, and to prevent any violation of instream water quality standards from stormwater. TER has employed the following types of best management practices appropriate for the site:

- Bio-bags- are placed in specific areas around each pond. Bio-bags slow water sufficiently to trap sand, silt and clay in and upstream of the bio-bag. They fit the contours of the land. Bio-bags are replaced if they break or are plugged.
- Oil soaker pads and snakes- each pond has two to four oil soaker pads per chamber and one to two oil snakes per chamber. The oil soaker pads will soak up any surface oils and the oil snakes will catch any oil missed by the pads. Both oil pad and snake soakers are replaced as needed.
- Rock baffles- All four ponds have rock baffles to slow the water flow and allow sediment to settle before discharging. The rock baffles are inspected for effectiveness and rock is added if needed.
- Pond 4 has a short vegetated bioswale that helps filter water and slow the velocity to allow settlement.
- Excess soil debris is scraped up off the high traffic areas to prevent tracking and runoff. New rock is placed around each pond regularly to slow moving water and stabilize the high traffic areas.
- Impervious expansion- TER is periodically expanding the impervious areas when leftover concrete is available.
- A buffer of approximately 15 feet (the road) along the slough will remain clear of all storage or products to help prevent site material falling into the slough.
- Vegetated compost berms are used around most stock piles. Compost is positively charged which tends to attract and hold the soil particles. In addition, the biota in the compost consumes oil and grease and can convert some soluble pollutants into insoluble forms. The compost berms are inspected for berm blow outs or saturation.
- During winter months, inactive soil piles are tarped to prevent soil runoff. Tarps are usually held down with tires and only removed for loading.
- Inside the maintenance building, an oil soaker berm is kept along the oil bins to absorb spills or drips. Oil pads and absorbent litter is used to clean up small spills.
- Equipment and vehicles are inspected regularly for leaks. Any leaks are fixed or taken out of service immediately.
- Employee training is done to ensure the correct spill response procedures and preventive measures are taken.
- Each pond has been constructed with oil and grease trap that pull water from the bottom of each pond. The oil soakers will soak up any potential surface oils.
- Spill kits are kept in every machine and truck for easy access in the event of a spill. Several spare kits are kept onsite and are replaced after use.

- Incoming material is sorted and inspected for any hazardous materials or liquids and then contained to prevent tracking throughout the facility and entering stormwater. Any unacceptable materials are rejected. Employees inspect the facility for debris daily. The sorting area is also bordered by eco-blocks and metal bins to contain the materials.
- Areas that are used for processing barks and wood are also bordered by eco-blocks, wood poles, or vegetated compost berms to contain the materials.
- All 4 ponds are dug out monthly to keep sediment levels down. There are mesh caps covering the outflow pipes to prevent any solids from leaving the site.
- Soil stockpiles with vegetation are “do not disturb” zones to maintain natural erosion control.
- Each pond has a Cherne Gripper Plug that can be placed in the outfall pipe to prevent the water from leaving the ponds in the event of a spill.

Minimize Exposure

As described above TER minimizes exposure of contaminants to the environment by working with petroleum hydrocarbons indoors in its maintenance shop, and storing petroleum hydrocarbons indoors and in appropriate storage containers above secondary containment. TER has placed an oil absorbent berm around petroleum storage areas in accordance with best management practices to prevent a potential release from impacting stormwater quality. Storage in the TER maintenance building includes the storage of waste oil from vehicle repair projects and vehicle maintenance. The waste oil is stored in a large 1,000-gallon tank located along the northeast interior wall of the TER maintenance building. Other mixtures of petroleum fuel and lubricants include gear lube, bar and chain oil, SAE 10w, SAE 30w, SAE 50w, windshield fluid, and anti-freeze contained in labeled containers above secondary containment bins. All chemicals are disposed of properly. Smaller 2-gallon and 5-gallon containers stored within the building onsite include power steering fluid, 2 cycle oil, automatic transmission fluid and gasoline.

Because some heavy equipment located on-site utilizes diesel fuel and hydraulic fluid, each vehicle / heavy machinery operated at the TER facility is equipped with a spill cleanup kit containing oil absorbent mats, epoxy repair putty, gloves, disposal bags, and absorbent litter. Heavy equipment at the facility does not typically operate immediately adjacent to stormwater ponds (except briefly when accessing landscaping bins near Pond 3). Any spills from heavy machinery or other vehicles will be contained and cleaned up immediately to prevent a release into pond waters (all are equipped with oil and grease traps). Approximately 80% of TER equipment is now using vegetable biodegradable grease.

Areas of high traffic are regularly rocked and graded and rock is replaced in areas around ponds to help reduce turbidity, this helps by scraping up any soil that has been tracked by traffic from becoming runoff into the ponds. Compost berms, eco-blocks, and tarps are used around select soil piles during the winter months. Equipment awaiting maintenance are stored on the paved area behind the maintenance shop, or if possible, inside the shop. Oil soakers, drip pans or an oil berm is placed under or around the equipment if needed and left in place until the leak is repaired.

No permanently inoperable vehicles are stored at the TER facility. Scrap metal in the receiving area is inspected for controlled liquid chemicals. TER does not accept computers, transformers, or other appliances that contain liquid chemicals. Any loads that have non-acceptable materials are rejected.

TER also minimizes exposure by providing information and educational materials to customers about acceptable and non-acceptable materials. TER's Solid Waste Operations Plan outlines procedures for handling incidental non-acceptable materials.

Oil and Grease

Oil absorbent pads and snakes are currently utilized in each of the ponds to contain any potential petroleum hydrocarbons. Each pond has been constructed with oil and grease trap that pull water from the bottom of each pond. Spill kits are stored in all vehicles and equipment, near fueling stations, oil bays, and spares are kept in storage containers (labeled on Figure 2). See Appendix B *Employee Education and Pond BMPs*

Waste Chemicals and Material Disposal

- Waste oil, stored in the TER maintenance building, is disposed of when required (approximately quarterly) by Emerald Services, Inc.
- Metal bins, stored in the Sorting Area, are picked up for recycling, approximately once a month, by Metro Metals. Or TER hauls scrap metal to local scraps yards to prevent accumulation on site.
- Non-recyclables dumpsters, stored in the Sorting Area, are removed approximately daily by Recology Western Oregon.

Erosion and Sediment Control

Ongoing activities to improve stormwater quality and reduce erosion includes, cleaning up any excess muddy debris and replacing it with crushed rock in areas where fine-grained sediment is exposed and also paving areas with non-cured concrete as it becomes available from other projects. The access roadway along the north facility boundary and adjacent to the unnamed slough is regraded periodically to slope away from the slough with additional gravel placed at this location. Drainage has also been improved adjacent to a spring identified immediately south of the access roadway. Surface waters emanating from the spring have been diverted to the south and are treated by Pond 1 prior to entering the slough.

Exposed soils are vegetated before winter months and a compost berm is placed around soil stockpiles to prevent runoff. TER also compacts the stockpiles to help seal and prevent soil movement. Tarps are utilized to help control runoff when the stockpiles become inactive during winter months.

Debris Control, Dust Generation, and Vehicle Tracking

The sorting area is surrounded by eco-blocks to prevent debris from blowing around the facility. The staff monitors the entire facility daily and removes garbage that may have blown around. TER is reducing dust by paving with concrete and by placing crushed rock. During the summer months, TER daily sprays the facility with a water truck, kept onsite, to diminish dust generation. Incoming materials are stacked up and stabilized daily to prevent customers or employees from driving through it and tracking it through the facility.

Housekeeping

Any construction debris containing garbage or non-recyclable materials is sorted in an area dedicated to that process on an impermeable surface as described above. It is bordered by eco-blocks to contain the materials and is processed quickly. Employees working in that area regularly clean up any materials that might have blown out of the sorting area. They also run large magnets around the facility to pick up nails or other pieces of metal.

When possible, all maintenance of vehicles is conducted inside the maintenance shop supporting a flat single pour concrete slab with no floor drains. Regular cleaning of the floors and building keeps material from being tracked outside of the structure. Any spills are cleaned up immediately. Heavy equipment and company vehicles are routinely inspected for leaks and repaired immediately if discovered.

PREVENTATIVE MAINTENANCE

Daily (undocumented) inspections are conducted of the following:

- Checking for and removing any garbage in or around the ponds
- Making sure the pond soakers are in place and clean
- Checking each pond for oil sheen or other potential spills
- Monitoring the condition of bio-bags and replacing them as needed
- Product bins- checking for overflow/containment and the condition of the eco-blocks
- Sorting Area- checking for any liquid staining or liquid chemical spills/staining
- Inspecting equipment and trucks for leaks

A minimum of (documented) monthly inspections is conducted on the following:

- Interior fluid storage area
- Settling ponds
- Visual inspection for leaks around equipment

Each pond is equipped with an 8-inch PVC pipe that pulls water from near the bottom of the pond, directs water through a 90-degree elbow and discharges water downgradient either into the ditch or slough. These pipes minimize the potential for oil and grease or other light non-aqueous phase liquids (LNAPLs), to impact waters adjacent to the TER facility. Vegetated man-made ditches connect ponds 2 and 3 with the slough (directly for Ponds 1 and 4) which conveys stormwater runoff to The Lewis and Clark River. All ponds have double basins with rock baffles in order to slow the water velocity and allow more time for solids to settle. Discharge from Pond 3 would have to travel approximately 1580 feet through a vegetated ditch to the unnamed slough and another 574 feet to Lewis and Clark River.

The fluid storage area within the TER shop is inspected monthly for leaks of the 55-gallon drums or valves. Absorbent cloths and absorbent berms are utilized to contain any low volume spills.

Equipment is inspected monthly and during routine maintenance to detect hydraulic leaks, motor oil fluid leaks or fuel leakage (gas or diesel). Machinery will be shut down upon a leak detection until defective parts are repaired or replaced. Approximately 80% of TER's yard equipment is using biodegradable grease and oils.

The Sorting Area is inspected on a daily basis for liquid staining, signs of liquid chemical staining or liquid chemical spills. Potential spills could include paint, liquid petroleum hydrocarbons or other chemical products. In the event that the liquid is not readily identifiable, the chemical spill will be contained and handled by a qualified individual. Although TER does not accept these chemicals, incidental chemicals may come into the facility. If they are discovered, the customer must take them back or TER disposes of them in accordance with solid and/or hazardous waste rules.

Although TER conducts the above inspections in order to lessen the likelihood of spills that might impact the project site environment, TER recognizes that spills may still occur. Spill response procedures have been developed as part of Employee Orientation and Education Program which will inform personnel of the components and goals of the SWPCP as well as address spill response procedures and the necessity of good housekeeping practices.

MONITORING LOCATIONS AND RECEIVING WATERS

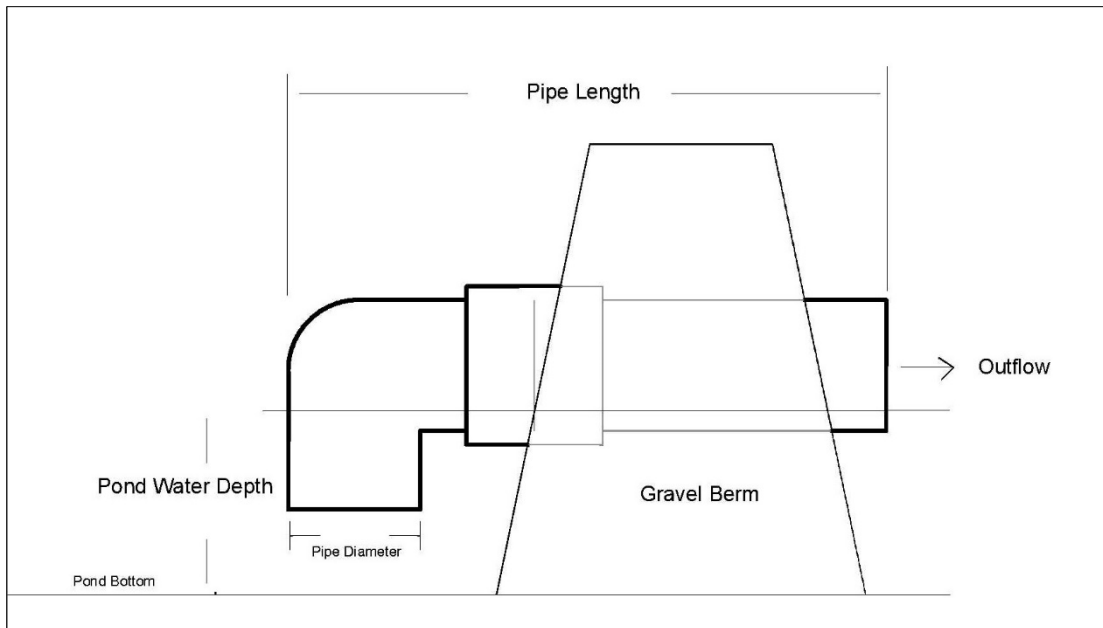
Stormwater quality is currently being monitored at four discharge outfalls, Discharge Points DP001 through DP004 shown on Figure 2. They correspond to the outlets from Settling Ponds 1 through 4.

Ponds 1 (46.144276, -123.872194) and Pond 4 (46.144321, -123.871016) are on the Northern side of the facility and they both discharge into an unnamed slough which discharges to The Lewis and Clark River. Lewis and Clark River runs into Youngs Bay, and the Columbia River Estuary. Pond 2 (46.143001, -123.872201) and Pond 3 (46.143217, -123.873639) are both on the Southern side of the facility and both discharge into a man-made ditch and after approximately 1580 feet it reaches the unnamed slough. The slough is not an impaired water body. Primary SIC: 5093, Secondary SIC: 5261.

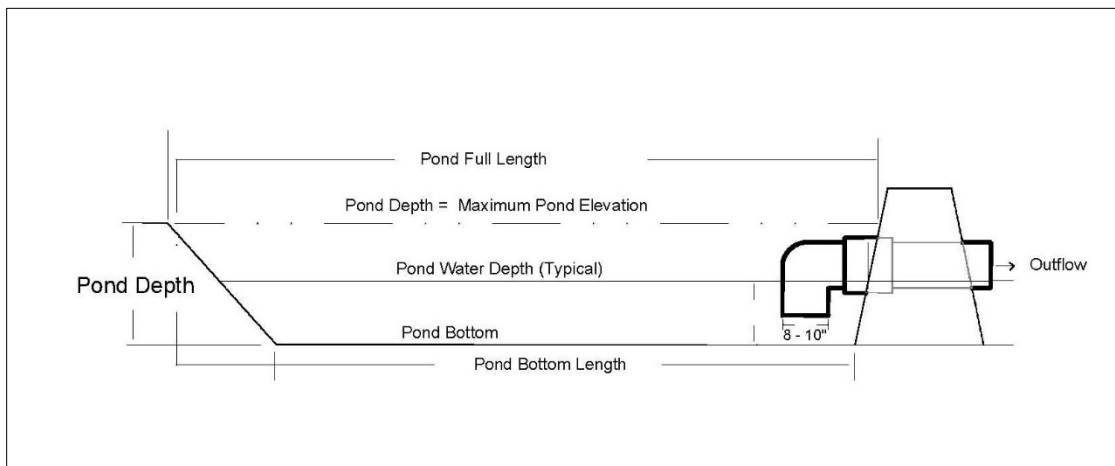
Pond Flow Calculations

Pond flow calculations were conducted in order to size outlet pipe diameters to prevent flooding of the project site. Ideally, the smallest possible diameter pipes are used in order to increase pond detention time while still preventing flooding for likely rainfall events. Pond flow calculations utilized areal coverage estimates based on measurements of each pond taken in November 2017 (shown on Figure 2 Site Plan) and were sized for Type II storm events for 24-hour one-inch rainfall events. Sub-basin infiltration rates were defined for either impermeable surfaces or un-vegetated dirt roads. CN numbers of 98% runoff (allowing 2% evaporation) and 89% runoff (equivalent to dirt roads) were utilized for impermeable and permeable surfaces, respectively. The length of outlet pipes was modeled for 6 feet to 14 feet pipe lengths (Pond 2 has a longer pipe that outlets directly into the man-made vegetated ditch) and modeled as smooth sided pipes. To calculate pond capacity the dimensions of each pond were recorded including width, length and approximate pond depths. For modeling purposes pond sidewalls were approximated at a 1:1 (horizontal to vertical) slope with relative elevations provided for outflow elevations. These calculations are conservative.

A generalized diagram showing a single pond and outflow pipes is shown below:



Total treated volume of water for each pond is presented below:



Pond Statistics				
	Pond 1 a/b	Pond 2 a/b	Pond 3 a/b	Pond 4 a/b
Pond Length	36/46	32/32	20/16	20/22
Pond Width	12	12	15/19	13/13
Pond Depth	3-5	3-5	3-5	3-5
Sub-Basin Area (Sq Ft)	115,384	62,698	93,945	92,620
Max Flow (CFS)	1.49	.90	1.93/1.9	1.02/0.97
Pipe Diameter (in)	8	8	8/10	8/8
Treated Volume (Ac Ft)	0.092	.039	.099/.099	0.042/0.041

Results upon calculation suggest that 8-inch outflow pipes are more than adequate for all of the ponds except for Pond 3b requiring a 10-inch outflow pipe. This is due to the size of the basin relative to the pond size. The total volume of treated water is highest for Ponds 3a and 3b (about 0.099-acre feet) and

lowest for Pond 2 (0.039-acre feet).

SPILL PREVENTION AND RESPONSE PROCEDURES

The Spill Prevention and Response Plan is included in Appendix A.

EDUCATION TRAINING AND ELEMENTS

TER implements education and training of each new employee within 30 days of the date of hire and annually thereafter. Participants acknowledged annual training attendance by signing a signature page, which are maintained in the TER office onsite. The General Manager, Office Manager and/or the Shop Foreman are responsible for providing employee orientation and education for new employees and annual review for existing employees. Employees who do not conduct duties related to the implementation of the SWPCP or who do not work in areas where stormwater is exposed to industrial activities may be exempt from this requirement. Employees are informed of the pertinent components and goals of the 1200-z permit and this SWPCP. See Appendix B *Employee Training and Pond BMPs*

CUSTOM EXCAVATING OPERATIONS

From time-to-time operations between Custom Excavating and Trails End Recovery cross paths. Custom Excavating delivers wood products to Trails End Recovery for processing. Custom Excavating's trucks transporting wood products are weighed in at the scale then proceed to either the chipping area that is directly in front of the scale (labeled "woody debris" on Figure 2), or towards the trailer tipper located on the southeast end of the hogfuel area. When not in use, these trucks are either in the parking area southwest of the office or past the north facility boundary line. Although Custom Excavating's trucks and equipment are stored and used at the Trails End facility, there are no separate operations other than described above.

Trails End Recovery SWPCP File No. 112084

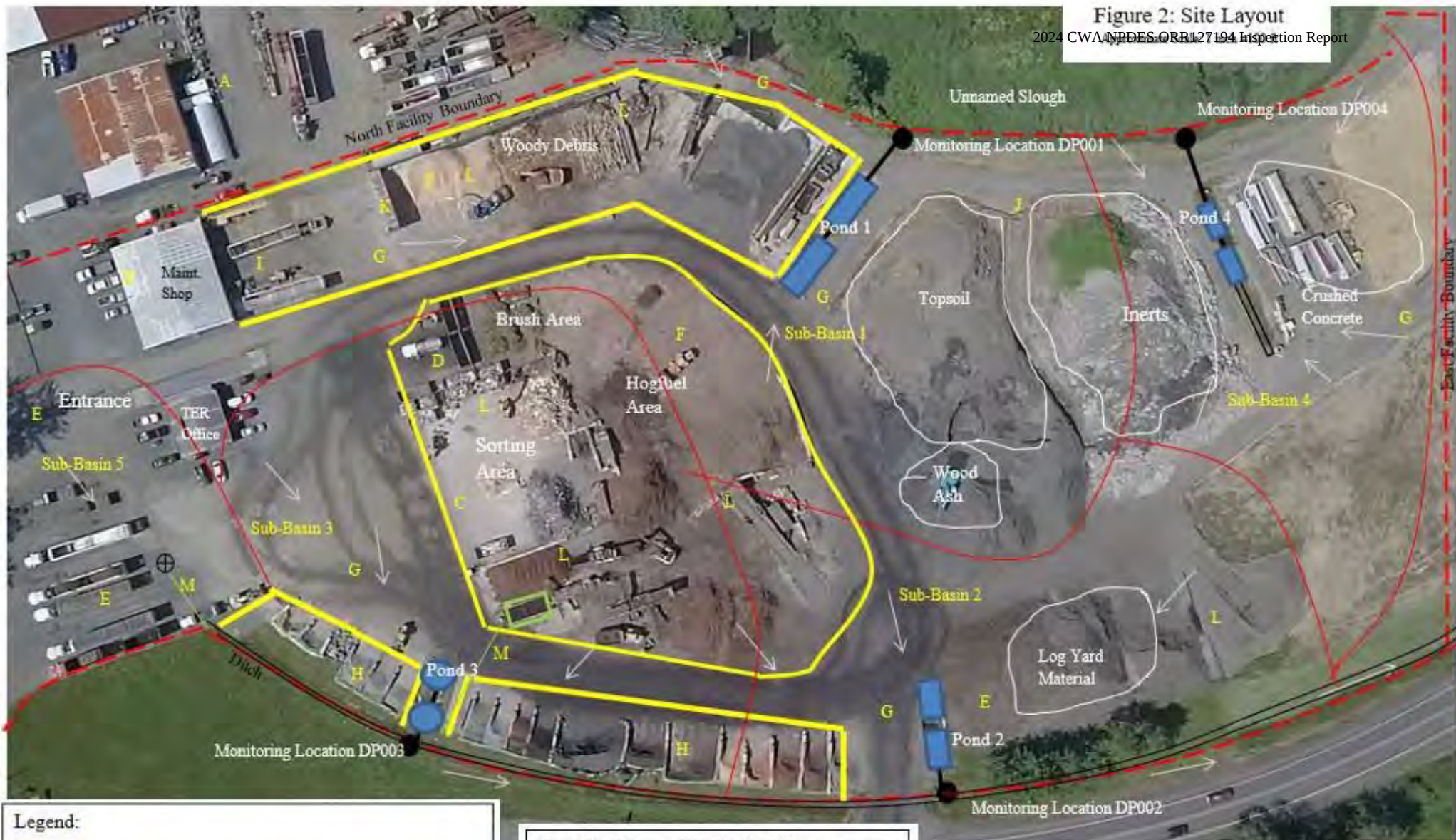
SIGNATURE PAGE

I certify under penalty of law that this document (Stormwater Pollution Control Plan (Revised) dated July 27, 2022), and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: DLPrinted Name: Dean LarsonPosition or Title: PresidentDate: July 27, 2022

Figure 2: Site Layout

2024 CWA NPDES ORR127194 Inspection Report



Legend:

- Concrete Impervious (Area Outlined)
- DP001-004 Discharge Point Surface water flow direction
- Ditch / Culvert / Pond Catch Basin
- Facility Boundary Line Sub Basin areas

Areas Keyed to Permit (7.b.i)

- (A) Diesel Tanks (B) Vehicle Maint. (C) Unloading/Loading areas
- (D) Waste Storage (E) Gravel Parking areas (F) Processing/Storage
- (G) Access Roads (H) Bulk Transfer Area (I) Truck Washing Pad (J) Spring
- (K) Spill Kit Locations (L) Machinery Locations (M) Groundwater Pipe

Facility Name: Trails End Recovery

Address: 2060 SE Airport Lane

City/State/Zip: Warrenton, OR 97146

County: Clatsop

Report: Stormwater Pollution Control Plan &
Solid Waste Operations Plan

DEQ File # 112084

Primary SIC: 5093

DEQ Permit 1200-Z #17589; Solid Waste Permit #496

Page 50 of 103

Notes

Sub-Basin 1 = 115,384 ft² (2.65 acres)
Sub-Basin 2 = 62,698 ft² (1.44 acres)
Sub-Basin 3 = 93,945 ft² (2.16 acres)
Sub-Basin 4 = 92,620 ft² (2.12 acres)
Total All Basins = 380,079 ft² (8.7 acres)

Impermeable Surfaces: Sorting Area = 52,179 ft² (1.2 acres); Product
Bins = 31,448 ft² (0.72 acres); Woody Debris = 32,289 ft² (0.74 acres);
Buildings = 5,408 ft² (0.12 acres)
Total Impermeable Surface = 121,324 ft² (32% of facility)



SPILL PREVENTION AND RESPONSE PLAN FOR:

Custom Excavating by Dean Larson Inc.
Trails End Recovery

2060 SE Airport Lane
Warrenton, OR 97146

Contact Person:
Alex Raichl
(503) 861-6030
customex.trailsend@gmail.com

File No. 112084 ORR12-7194

Issued 12803 GEN1200Z CLATSOP/NWR
Permit 1200-Z
(#17589)

Report By:
Robert S. Bogar, M.S.
949 14th Street
Astoria, OR
97103

Revised August 31, 2021

SPILL PREVENTION AND RESPONSE PLAN

TABLE OF CONTENTS

1.0 INTRODUCTION AND SCOPE OF WORK	3
2.0 RESPONSE PLAN	3
3.0 SPILL RESPONSE PERSONNEL	3
4.0 DESCRIPTION OF RISKS.....	3
5.0 DESCRIPTION OF MATERIALS	3
6.0 PREVENTIVE MEASURES/BEST MANAGEMENT PRACTICES.....	3
7.0 CONTAINMENT	4
8.0 SPILLS ON TO SOIL.....	4
9.0 SPILLS INTO WATER.....	5
10.0 DISPOSAL.....	5
11.0 TRAINING	5
12.0 REQUIRED ITEMS ONSITE.....	6
13.0 WHEN TO REPORT A SPILL	6
14.0 EMERGENCY CONTACT INFORMATION	6

1.0 INTRODUCTION AND SCOPE OF WORK

Custom Excavating and Trails End Recovery is an industrial salvage and recycling business. Currently Trails End Recovery (TER) accepts clean and mixed wood, brush, and yard debris, tree stumps, treated wood products, asphalt, concrete, dirt, rock and sod, excavation materials, scrap metal, demolition debris, sheetrock, and asphalt roofing. Products are transported by trucks, which are weighed on a scale immediately north of the TER building, and offloaded for sorting near the main entry to the yard.

2.0 RESPONSE PLAN

This plan outlines the general procedures followed in the event of a release or spill of a hazardous or regulated material or waste.

3.0 SPILL RESPONSE PERSONNEL

- General Manager- Alex Raichl (503) 741-6867
- Shop Manager- Bert Chase (503) 741-6916
- Office Manager- Rachel Marriott (503) 298-1445
- Shop Assistant- Robert Byrd (503) 468-2266

4.0 DESCRIPTION OF RISKS

TER does not accept hazardous or dangerous waste. The recycling processes do not involve or create major quantities of hazardous or regulated waste. Of the limited amount of hazardous or regulated material used onsite, the proper management of their handling and storage will be ensured to mitigate any potential effects to on-site personnel or the environment. Although the risk of a significant release is low, this plan provides best management practices and guidelines to further reduce the risk from a release. The most common types of spills are small and easily contained. Spills of fuel, lubricants during operations can occur as a result of fueling, hydraulic hose brakes, mechanical damage or vandalism.

5.0 DESCRIPTION OF MATERIALS

The main categories of hazardous/regulated materials used will be:

- Recycled/stockpiled construction materials
- Equipment coolants and maintenance chemicals including fuels, lubricating and hydraulic oils
- Construction vehicles which contain antifreeze, fuels and lubricants

Safety Data Sheets for all typical materials used by the facility are stored onsite at all times.

6.0 PREVENTIVE MEASURES/BEST MANAGEMENT PRACTICES

Equipment Staging, Maintenance and Fueling

- Store and maintain equipment in a designated area
- Make sure all containers are labeled correctly
- Use secondary containment (drain pan) to catch spills when removing or changing fluids
- Use proper equipment (pumps, funnels) to transfer fluids
- Do not “top-off” tanks
- Do not leave fueling unattended
- Keep spill kits readily accessible
- Check incoming vehicles for leaking oil and fluids
- Transfer used fluids and oil filters to waste or recycling drums
- Inspect equipment routinely for leaks and spills
- Repair equipment immediately, if necessary
- Implement a preventative maintenance schedule for equipment and vehicles
- Regulated Waste/Hazardous Waste Storage Area. Use secondary containment for any stored fluids.
- Use entire volume before disposing of the container
- Retain the original product label or SDS
- Recycle any useful material (used oil)
- Segregate wastes by waste type
- Minimize the quantity of hazardous waste generated onsite and maintain storage quantities, times and disposal in compliance with USEPA regulations (note, it is not anticipated that the site will generate hazardous waste)
- Arrange for disposal of hazardous/regulated waste at an approved waste facility as needed. Do not store waste unnecessarily.
- Train employees in proper hazardous/regulated material and waste management

7.0 CONTAINMENT

Hazardous Substances as defined in 40 CFR § (Section) 302.4 must be stored within berms or other secondary containment devices to prevent leaks and spills from contaminating stormwater. The Environmental Protection Agency interprets section 101(14) to exclude crude oil and fractions of crude oil including hazardous substances such as benzene, in what is commonly known as the petroleum exclusion. While it would be extremely unlikely that a release of this volume of liquid petroleum hydrocarbon would reach Pond 1, TER placed an oil soaker berm around the 55-gallon tanks in accordance with best management practices for the project site to prevent impacts to stormwater quality.

Screening of scrap metal in the receiving area is inspected of controlled liquid chemicals. TER does not accept computers, transformers, or compressors, or other appliances that contain liquid chemicals, unless the chemicals have been removed.

8.0 SPILLS ON TO SOIL

In the event that a soil spill occurs, the following procedures are to be followed:

- Stop operations.
- Identify the product- check container design, warning labels, markings etc.
- Prevent personnel from approaching the area and keep them at a distance sufficiently removed that they will not be injured by, or cause, a fire or explosion.
- Stop the flow at the source-reduce or terminate the motion of product without endangering anyone.
- Assess the extent of the spill.
- Get spill kit and place the oil sock around the spill.
- Dump kitty litter or hogfuel on spill.
- Report the spill to the department manager and provide basic information such as location of spill, what was spilled and the amount spilled.
- Fill out a Spill Response Form if it is a reportable spill.
- The petroleum spill does not need to be reported to the Oregon Department of Environmental Quality (ODEQ) if the following criteria are met:
 - ✓ The quantity is known to be less than 42 gallons; and
 - ✓ The spill is contained and under the control of the spiller; and
 - ✓ The spill has not and is not likely to reach land or waters of the state; and
 - ✓ The spill is cleaned up within 24 hours of discovery.

A spill is considered to have not impacted land if it occurs on a paved surface such as asphalt or concrete. A spill in a dirt or gravel parking lot is considered to have impacted land and is reportable if it does not meet the above requirements. Report the spill to other federal and local authorities, if required.

9.0 SPILLS INTO WATER

- Stop the source of the spill immediately
- Shut down all equipment and ignition sources in the area
- Plug the pond pipe until spill is cleaned up
- Install boom and absorbent to contain the spill
- Notify the Department Manager
- Notify ODEQ
- Notify a spill response contractor, if necessary
- Clean up absorbent and waste materials and dispose at an approved waste disposal facility
- Decontaminate the area, equipment and surfaces that have contacted the spilled material

10.0 DISPOSAL

Hazardous Wastes will be transported via truck to an appropriate disposal facility as needed. Stored waste oil is picked up by Emerald Services, Inc., approximately quarterly.

11.0 TRAINING

All personnel working at TER will be informed of all possible spill hazards, as well as the location, content, and usage of spill kits. All new employees will receive a copy of TER's Occupational Health

and Safety Program, SDS Training, and an Employee Handbook. Sections of this information are reviewed quarterly during Company Meetings and weekly tailgate meetings.

12.0 REQUIRED ITEMS ONSITE

A spill kit should include: Poly containment pail, oil absorbent pads, oil absorbent socks, heavy duty disposal bags, nitrile gloves, all-purpose absorbent (such as sawdust or kitty litter), shovels, plugs, and clamps to control line breaks.

13.0 WHEN TO REPORT A SPILL

You are responsible for the immediate cleanup of your spill, regardless of the quantity involved. The responsibility lies with the person who spills the product, as well as the person owning or having authority over the oil or hazardous material.

Reportable spills include:

- any amount of oil to waters of the state;
- oil spills on land in excess of 42 gallons;
- hazardous materials that are equal to, or greater than, the quantity listed in the Code of Federal Regulations, 40 CFR Part 302 (List of Hazardous Substances and Reportable Quantities), and amendments adopted before July 1, 2002.

14.0 EMERGENCY CONTACT INFORMATION

- Oregon Emergency Response System (OERS) (800) 452-0311
- Fire Department 911
- USEPA National Response Center (800) 424-8802



Custom Excavating
By Dean Larson Inc.



2024 CWA NPDES ORR127194 Inspection Report

TRAILS END RECOVERY

— creative recycling solutions —



2060 SE AIRPORT LANE WARRENTON, OR 97146 * (503)861-6030 * FAX (503)861-4341

customex.trailsend@gmail.com

www.trailsendrecovery.com

APPENDIX B

Stormwater Pollution Protection Plan Training

1. Specific control measures used to achieve the narrative technology-based effluent limits such as spill response procedures and good housekeeping practices
 - **Spill response procedures-** Clean up spills promptly, dispose of liquids correctly and promptly. Make sure all containers are labeled.
 - **Good housekeeping-** Keeping garbage picked up, alerting management about leaks and spills, keep materials orderly and properly labeled, materials are stowed in proper containers, proper maintenance of vehicles and/or equipment. Regular dust suppression of the yard, write it down on your timecard for office record keeping.
2. Monitoring, inspection, reporting and documentation requirements.
 - **Pond Monitoring-**Checking for oil sheen, foam, turbidity (muddy water), garbage or other debris, clean soakers and snakes, bio-bags are in place and in working condition, replace if needed. Check the pipes to make sure they are clear for water flow. *See Pond BMPs.*
 - Monthly inspection reporting is required by DEQ.
 - Documentation is required by DEQ. All monthly yard and pond inspections, SWPCP revisions, corrective actions and other reports are documented and stored in the office.

Ponds

Pond 1- Located at the Northeast side of the Property (see map)

Pond 2- Located Southeast near the gate on the Property

Pond 3- Located at the South side of the Property

Pond 4- Located at the East side of the Property

- Each pond will be inspected daily by the yard staff and every month by the Office Manager. They will also be inspected after large storm events; the inspection results will be recorded in the binder that's located in the office.
- Any garbage around or in the ponds should be picked up and disposed of daily.
- When inspecting the ponds, check for signs of high sediment, color, odor, foam, turbidity, oil sheen, and outflow (make sure pipes are clear).

- All ponds must have a minimum of three oil soakers at all times, these will be switched out as needed. They will also each have 2 oil snakes across each pond to ensure 100% containment should a spill occur. *See Pond BMPs*
- Oil soakers will be disposed of in biohazard bags, located in the safety closet.
- Report any issues immediately to your supervisor.
- Many of the ponds have rock baffles, report any needs for repair.

Shop Oil Bay

- Oil soakers will be disposed of in biohazard bags, located in the safety cabinet.
- All spills in the shop must be cleaned up immediately.
- All oils and fuel must be stored and kept in appropriate labeled containers, with secondary containment procedures in place.
- Oil soakers and absorbents must be kept on hand at all times, notify your supervisor if the stock is getting low.
- The containment boom around oil bay perimeter must be kept clean and checked regularly.
- Monthly inspection results of the oil bay are kept in the shop.
- See Spill Response Plan for spills over 42 gallons.

By signing below, I acknowledge that I received and read a copy of Trails End Recovery's Spill Pollution Response Plan, received a copy of the Pond BMPs, and have been trained on the information above.

Printed Name

Date

Employee Signature

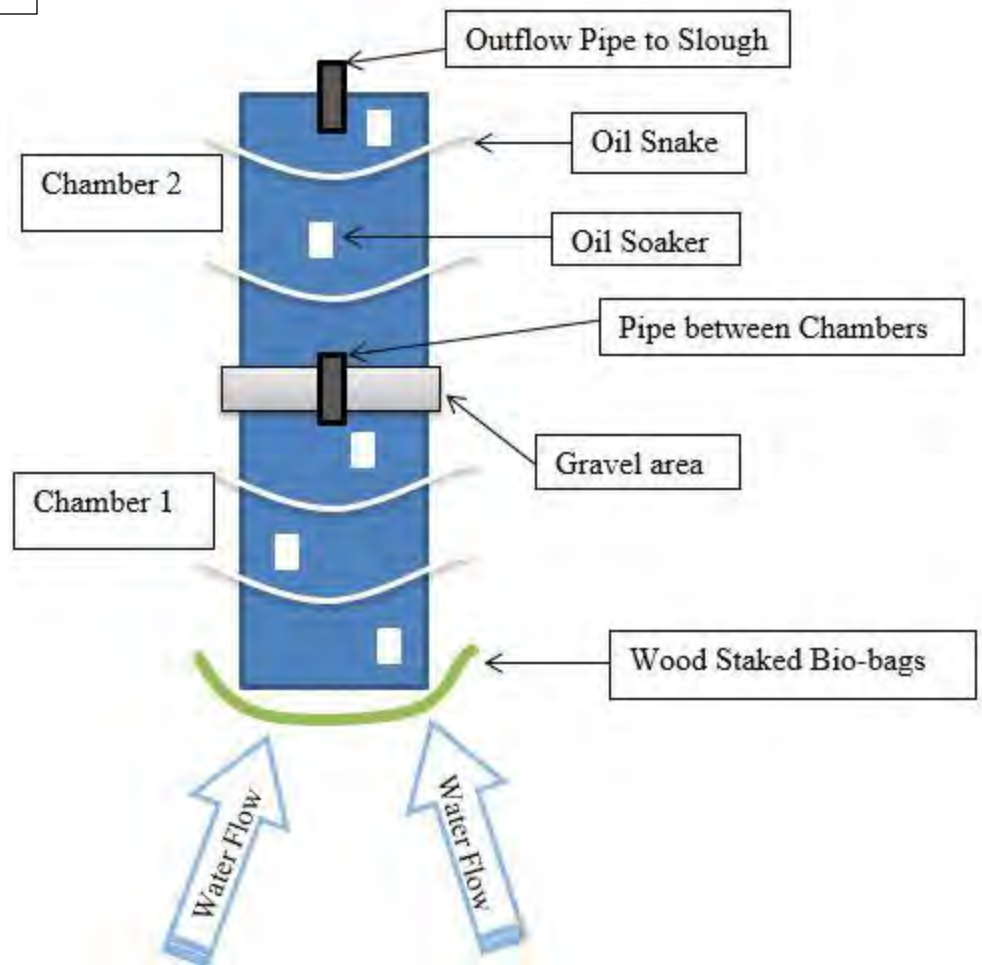


TER Pond BMPs

Pond #1-Near hogfuel area

Potential Issues and Notes about Pond:

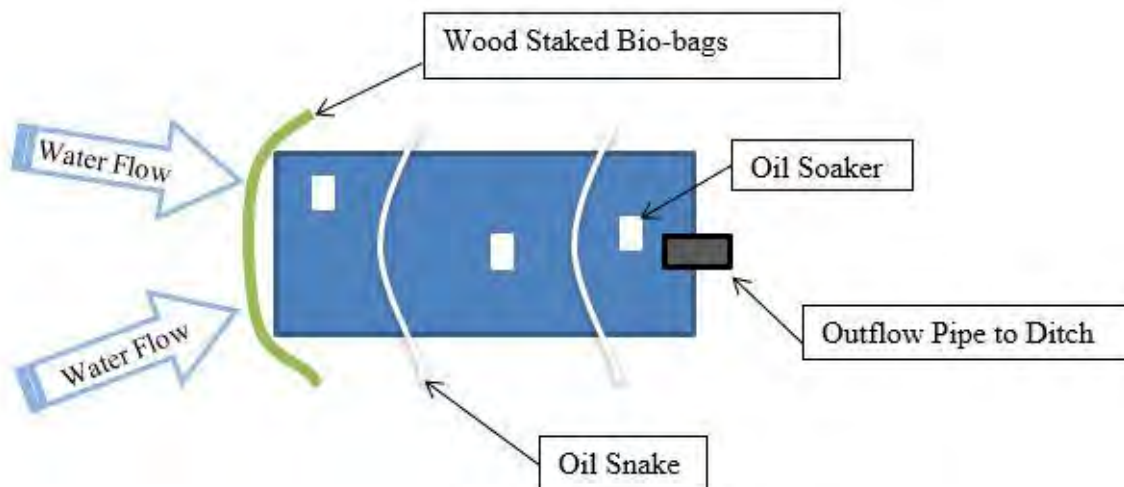
1. Hogfuel debris can runoff into pond.
2. Road around pond tends to get muddy.
3. Bio-bags will need inspected regularly and replaced as needed.
4. Machines are closest to this pond; beware of oil sheen or runoff.



Pond #2- Near back gate

Potential Issues and notes about pond:

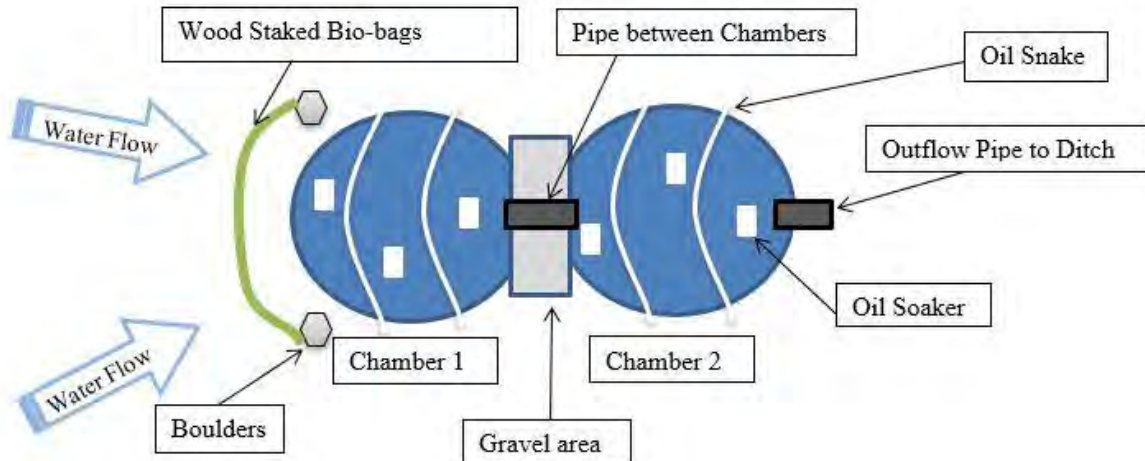
1. Near bark pile, watch for floating bark-remove daily.
2. Lots of traffic near pond, watch for garbage and runoff.



Pond #3- Near Product Bins

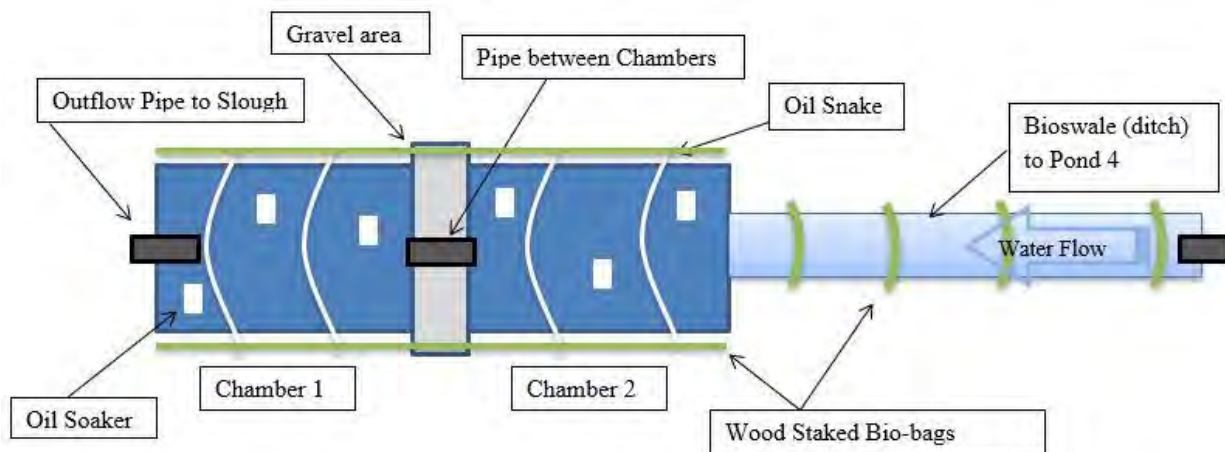
Potential Issues and notes about pond:

1. Road in front of chamber 1 can get muddy. Add gravel when needed.
2. Bio-bags need checked regularly (broken or plugged) and replaced as needed.

**Pond #4-** Near the backside of the concrete pile

Potential Issues and notes about pond:

1. Bio-bags need checked regularly in the bioswale (ditch)
2. Keep concrete chunks away from the pond.



ATTACHMENT E

December 27, 2023, Site Inspection Report (Monthly)

A 12/4/23 Visual Observation AR

Monthly Pond Inspections for Trails End Recovery

Month	Pond #1a and 1b		Pond #2		Pond #3a and 3b		Pond #4a and 4b	
	Date & Time	Type of Discharge	Date & Time	Type of Discharge	Date & Time	Type of Discharge	Date & Time	Type of Discharge
Dec 23	12/27 4pm	Rain	12/27 4pm	Rain	12/27 4pm	Rain	12/27 4pm	Rain
Observation	Iron sheen, some bark in pond, no foam/oil, soakers/snares there but wind blown together		Soakers/snares in place, some iron sheen, some foam in ditch		Soakers/snares in place, some iron sheen in pond & ditch		Hardly any flow but foam, has soaker & snares, no sheen	
Corrective Actions	Soakers need fixed biobag fell in / log in pond / Fixed 12/28		Add biochar bag & more oyster shells / Done 12/28		✓ Done 12/28 Add oyster shells		Soaker blown out of pond / Fixed	

* Visual observation for the presence of floating, suspended or settle-able solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge points

MONTHLY TER YARD INSPECTIONS

Really windy

- ✓ The inspection date and time: 12/27/23 4-4:30 pm
- ✓ The name(s) of inspector(s): Rachel Marriott
- ✓ Control measures and treatment facilities needing cleaning, replacement, maintenance, reconditioning or repair:
None other than above
- ✓ The condition of the drainage and conveyance system and need for maintenance:
Pond 1 mesh needs cleaned ✓ Fixed
- ✓ Previously unidentified sources of pollutants:
None observed
- ✓ Any corrective action, source control or maintenance taken or scheduled to remedy problems found:
None other than above
- ✓ Industrial materials, residue, or trash that may have or could come into contact with stormwater:
None observed
- ✓ Leaks or spills from industrial equipment, drums, tanks, and other containers:
NO Leaks or spills
- ✓ Offsite and internal tracking of industrial or waste materials, or sediment where vehicles enter or exit the site:
None observed
- ✓ Tracking or blowing of raw, final, or waste materials that results in exposure of stormwater falling on the site:
None observed
- ✓ Evidence of, or the potential for, pollutants entering the drainage system:
None observed
- ✓ Evidence of pollutants discharging to receiving waters at all discharge points:
None observed
- ✓ Stormwater control measures, including treatment, to ensure they are functioning properly:
other than above everything working normal

Yard Maintenance this month:yard bla
Dail

12/4/23 Change soakers in Ponds 1, 2, & 3
Pond Samples

12/7/23 Hauled out 2 scrap metal loads (concrete)

12/8/23 Clean up yard - stabilize/stack piles

12/11/23 Finished crushing concrete

12/12/23 Change soakers in all ponds

12/21/23 Change snakes in Pond 1

12/26/23 Pick up blown garbage from wind storm

12/28/23 Add more oyster shells to Ponds 2 & 3
Replace biochar bag in Pond 2 and add one to 2a

Changed soakers in pond 1 - cleaned culvert
mesh guard, cleaned out hogfuel, fixed biobag

Dec 23 14" Rain

ATTACHMENT F

Tier I Reports (2023, 2022, 2021)



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 12/27/2023

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 12/4/2023

Date Lab Results Received: 12/20/2023

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated aluminum levels. The aluminum is about half as high as November's samples (2.61 mg/L Nov. vs 1.3 mg/L Dec.). All ponds show lower metal levels, since we have added oyster shells.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

We will add more oyster shells to Pond 2 and Pond 3 since those two typically have higher aluminum levels.

Date corrective action(s) completed or expected to be completed: 12/27/23

Are SWPCP revisions necessary?
If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 11/30/2023

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum, COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 11/13/2023

Date Lab Results Received: 11/28/2023

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated aluminum levels. The aluminum is lower than the last few samples, we have added oyster shells, and biochar bags to each pond in an effort to filter out the metals.

Pond 3 had elevated levels of aluminum and the COD was right at the benchmark of 120.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

They oyster shells are relatively new, so we are hoping they will work better with time. We will sample again in two weeks and see if there are any changes.

Date corrective action(s) completed or expected to be completed: _____

Are SWPCP revisions necessary?
If "Yes", please describe revisions below:

☐ **Yes**

☒ **No**

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 5/2/2023

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum, COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 4/21/2023

Date Lab Results Received: 5/2/2023

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated aluminum and COD - Because Pond 4 also has elevated aluminum, we believe a portion of it must be background levels. There are no soil processing activities by Pond 4 and it has a bioswale that runoff filters through before reaching the pond. The aluminum levels have been consistently higher in Pond 2 because of the soil/bark screening operation nearby. Soil and bark naturally have high levels of aluminum.

Since the last samples, the aluminum in pond 2 are quite a bit lower, possibly due to the Biochar bags.

Pond 4 had elevated aluminum and COD. Again, the aluminum must be background levels, since there are no soil or bark screening operations in that area.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

We moved the Biochar bags into the water to see if that would be even more effective,

We are going to add some Biochar bags to Pond 4 this week.

Date corrective action(s) completed or expected to be completed: within 30 days

Are SWPCP revisions necessary?
If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 3/23/2023

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☒ Statewide Benchmark Exceedance (list analyte(s)): TSS, Copper

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum, COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 3/10/2023

Date Lab Results Received: 3/22/2023

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated aluminum, COD, and TSS- Because Pond 4 also has elevated aluminum, we believe a portion of it must be background levels. There are no soil processing activities by Pond 4 and it has a bioswale that runoff filters through before reaching the pond. The aluminum levels have been consistently higher in Pond 2 because of the soil/bark screening operation nearby. Soil and bark naturally have high levels of aluminum. We added the Biochar bags on 2/10/23, hopefully they will help absorb some of the aluminum.

A few days before we took samples, we had a large delivery of bark, that mixed with the 1.25" of rain, most likely caused the higher levels of COD and TSS.

Pond 3 had elevated aluminum, TSS, COD, and Copper- Our last Screened topsoil samples show a normal level of copper

Pond 4 had elevated aluminum and COD. Again, the aluminum must be background levels, since there are no soil or bark screening operations in that area.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

For Pond 2 we placed some Stormwater Biochar filter socks and placed them before the outfall. (2/10/23)

For the TSS in Ponds 2, 3, and 4 we are placing a fine steel mesh screen to hold back small particles from leaving the site.

Date corrective action(s) completed or expected to be completed: within 30 days

Are SWPCP revisions necessary?
If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 1/5/2023

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 12/29/2022

Date Lab Results Received: 1/4/2023

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated aluminum levels

We enlarged Pond 2 in October, but we had over 8 inches of rain between 12/25 – 12/29, and with the tide gate being broken, our yard flooded several times. So, the settling time was diminished.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

For Pond 2 we are going to get a Stormwater Biochar filter socks and place them around Pond 2 to see if they will absorb some of the aluminum.

Supplies are limited, we are going to try and borrow some from another local company.

Date corrective action(s) completed or expected to be completed: Jan 2023

Are SWPCP revisions necessary?
If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 12/20/2022

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum, COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 12/05/2022

Date Lab Results Received: 12/16/2022

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated aluminum levels and COD.

Pond 4 also had elevated levels of COD.

We enlarged Pond 2 in October, but we had 5 inches of rain between 11/27 – 12/5, and with the tide gate being broken, our yard flooded several times. So, the settling time was diminished.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

For Pond 2 we are going to get a Stormwater Biochar filter socks and place them around Pond 2 to see if they will absorb some of the aluminum.

Supplies are limited, we are going to try and borrow some from another local company.

Date corrective action(s) completed or expected to be completed: Jan 2023

Are SWPCP revisions necessary?
If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 11/19/2021

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☒ **Statewide Benchmark Exceedance (list analyte(s)):** Copper, TSS

☒ **Sector Specific Benchmark Exceedance (list analytes(s)):** Aluminum, COD

☐ **Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):**

Date Sampling Occurred: 11/10/2021

Date Lab Results Received: 11/18/2021

Describe the result(s) of the investigation of the elevated pollutant levels:

On 11/4/21, Pond 2 was cleaned out and rock was added to the baffle to help slow sediment. Between November 4th and 10th, it rained approximately 4". Pond 2 had elevated levels of aluminum, TSS, Copper, and COD. The aluminum is most likely from the topsoil pile runoff, which also caused elevated TSS and COD. The copper is most likely background levels, no obvious causes have been identified. The high amounts of rainfall caused the runoff. The topsoil pile is actively used all year long so it is not covered or compacted for winter.

Pond 3 had elevated levels of Aluminum, TSS, Copper, and COD. Again, no causes for elevated levels of copper have been discovered. The aluminum may be from our dry screening process of bark which would have also caused the elevated TSS and COD. The exceedances could also potentially be from the mix

debris sorting area.

Pond 4 had elevated TSS and COD. The pH was also higher than normal (not over benchmarks per field test). This may be attributed to the recent placement of the crushed concrete in subbasin 4. The large amount of rain potentially made the bioswale into Pond 4 ineffective at slowing down the runoff from the topsoil pile, causing the TSS and resulting COD.

The screening area in subbasin 2 is causing muddy conditions, heavy rainfall causes that sediment to sheet flow to pond 2.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

Stabilizing the majority of the topsoil pile

Checking the area more often for evidence of topsoil runoff into Pond 2

Scraping the screening area more often if not every day to pick up excess mud

Replaced biobags in the bioswale into Pond 4

Date corrective action(s) completed or expected to be completed: 11/19/2021

Are SWPCP revisions necessary?
If "Yes", please describe revisions below:

☐ Yes ☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.

Copper is introduced into the environment through both natural and anthropogenic activities. Anthropogenic sources of copper in the environment are copper mining activities, metal and electrical manufacturing, agricultural and domestic use of **pesticides and fungicides, leather processing**, and automotive brake pads.

Never had an exceedance of copper, likely background

Aluminum

Crushed concrete may be a factor- machine has aluminum parts- possible aluminum in the concrete.

Aluminum is present in many soil types and minerals and is generally present in ground and surface water at low levels.^[vii] Acid rain can dissolve aluminum in soils and transport it via runoff into water bodies in a dissolved state.^[viii]

The primary uses of aluminum in industry include auto parts, beverage cans, home construction and aluminum foil.^[xii] Aluminum compounds are added to sewage to facilitate phosphate removal and as part of the paper production process.^[xiii] Aluminum in these forms can make its way into waterways and human freshwater drinking sources through stormwater runoff.

Aluminum in stormwater exists primarily in a solid, particulate form. Enhanced, passive media filtration and polishing can be used to effectively remove particulate aluminum from stormwater prior to discharge to help facilities meet benchmarks or NALs. The Aquip passive media filter and the Purus metals polisher combined offer an advanced level of aluminum removal from stormwater.

Sources of COD in stormwater are varied. However, soluble organic compounds are most likely to contribute to escalated COD concentrations. Residual food waste from bottles and cans, antifreeze, emulsified oils are all high in COD and are common sources of COD for industrial stormwater.

Residual food waste from bottles and cans, antifreeze, emulsified oils are all high in COD and are common sources of COD for industrial stormwater



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 06/22/2021

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

- ☐ Statewide Benchmark Exceedance (list analyte(s)):
- ☒ Sector Specific Benchmark Exceedance (list analytes(s)): Iron and COD
- ☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 05/28/2021

Date Lab Results Received: 06/18/2021

Describe the result(s) of the investigation of the elevated pollutant levels:

All four ponds had exceedances in COD and iron. Iron is usually high in our area since it is naturally occurring. Testing requirements are changing and testing for iron is no longer required. High levels of COD are caused by decaying plant matter or TSS, or industrial effluent. All four ponds had normal levels of TSS, and pond 4 has the most vegetation. As for industrial effluence, the industrial processes that happen on site only have stormwater runoff into pond 2 and 3. Our best guess is that there was very little rain in the month of May, the total being 1.36". Rain on 5/27/21 was .10" and rain on 5/28/21 was .23". While the ponds were discharging enough to sample, the lack of rain may have influenced the COD levels.

Describe the corrective action(s) you will take to address the benchmark exceedence(s):

There isn't a corrective action needed at this time. All ponds will be closely monitored for any other causes that could affect the water quality. Future changes may be needed after more sampling.

Date corrective action(s) completed or expected to be completed: _____

Are SWPCP revisions necessary?

If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



State of Oregon
Department of
Environmental
Quality

Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 04/29/2022

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum, COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 04/12/2022

Date Lab Results Received: 04/21/2022

Describe the result(s) of the investigation of the elevated pollutant levels:

All 4 ponds had elevated aluminum levels. This is the first time pond 1 and pond 4 has had elevated aluminum.

Pond 4 also had elevated levels of COD.

Since the levels of aluminum were high in all 4 ponds, there may be some pre-existing background levels. On 5/16/2022 we are going to take samples of areas above our facility to see what kind of results we find.

Describe the corrective action(s) you will take to address the benchmark exceedence(s):

Depending on the results, we will update this.

Date corrective action(s) completed or expected to be completed: _____

Are SWPCP revisions necessary?

If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 3/3/22

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☒ Statewide Benchmark Exceedance (list analyte(s)): TSS, Copper

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum, COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 2/14/22

Date Lab Results Received: 3/1/22

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated levels of Aluminum. Caused by the topsoil pile near pond 2.

Pond 3 had elevated levels of COD, Aluminum, TSS, and Copper.

Since the middle of November, ²⁰²¹ we have been using a range gauge. January had over 18" of rain and February had almost 8". High amounts of rainfall caused the runoff to move quicker than usual, the runoff wasn't able to settle in the ponds long enough.

These two ponds receive the majority of runoff from site processing. The high levels of aluminum, TSS,

and possibly the copper are from our screening process that happens about 60-70 feet away from Pond 3. The excessive rainfall and lack of settlement time is what is causing the exceedances.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

With dryer weather on the way, the exceedances should go down. We are going to enlarge pond 2 to help with the settlement time.

Date corrective action(s) completed or expected to be completed: 3/11/22

Are SWPCP revisions necessary?

If "Yes", please describe revisions below:

☐ Yes

No



Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



State of Oregon
Department of
Environmental
Quality

Department of Environmental Quality Industrial Stormwater Permits Tier I Report Form

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required, please retain this form onsite.

Date Form Prepared: 1/04/2022

Facility Name: Trails End Recovery

File Number #: 112084

County: Clatsop

SIC Code(s): 5093

Prepared By: Rachel Marriott

Phone Number: 503-861-6030

E-mail Address: customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Aluminum, COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 12/13/2021

Date Lab Results Received: 1/3/2022

Describe the result(s) of the investigation of the elevated pollutant levels:

Pond 2 had elevated levels of Aluminum and COD. The aluminum is most likely from the topsoil pile runoff, which also caused elevated COD. High amounts of rainfall caused the runoff. The topsoil pile is an actively used pile so it is not covered or compacted for winter.

Describe the corrective action(s) you will take to address the benchmark exceedance(s):

The corrective actions from the last Tier 1 report have been in place, and the aluminum levels are significantly lower than the previous samples. We will continue to work on those actions. However, the amount of rain is nearly double the amount from December 2020 and is going to cause exceedances.

Date corrective action(s) completed or expected to be completed: _____

Are SWPCP revisions necessary?

If "Yes", please describe revisions below:

☐ Yes

☒ No

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.



**Department of Environmental Quality
Industrial Stormwater Permits
Tier I Report Form**

Instructions: Fill out this form if stormwater sampling results show an exceedance of any statewide benchmark(s), sector specific benchmark(s), or reference concentration(s) for impairment pollutants identified in the permit assignment letter. If you need additional space to answer the questions below, please attach additional sheet(s). The form must be filled out within 30 days of receiving analytical results. If no changes to the SWPCP are required or for benchmark exceedances, please retain this form onsite.

Submit Tier I report no later than 60 calendar days after receiving monitoring results for a sample that exceeds an impairment reference concentration.

Date Form Prepared: May 13, 2021

Facility Name: Trails End Recreary

File Number #: 112084

County: Clatsop

SIC Code(s): 5093, 5261

Prepared By: Rachel Marriott

Phone Number: 503-861-1030

E-mail Address: Customex.trailsend@gmail.com

Form is being filled out in response to:

☐ Statewide Benchmark Exceedance (list analyte(s)):

☒ Sector Specific Benchmark Exceedance (list analytes(s)): Iron and COD

☐ Impairment Pollutant Reference Concentration Exceedance (list analyte(s)):

Date Sampling Occurred: 4/26/21

Date Lab Results Received: 5/12/21

Describe the result(s) of the investigation of the elevated pollutant levels:

Iron is commonly elevated and believed to be caused by existing background levels.

High COD is believed to be caused by turbidity. It hasn't rained much so the storm event caused turbidity.

Describe the corrective action(s) you will take to address the benchmark exceedence(s):

To help deal with turbidity in Pond 3, we added 1 1/2" drain rock to the inflow side and dug out settled sediment. We added a baffle (made out of 1 1/2" drain rock) in the middle of the 1st chamber to slow velocity to the next chamber.

Once a bioswale is approved the turbidity issue will be fixed

Date corrective action(s) completed or expected to be completed: 5/18/21

Are SWPCP revisions necessary?

☐ Yes

☒ No

If "Yes", please describe revisions below:

Not now but we are working on other options to deal with the problem.

Please submit the revised pages of the SWPCP to DEQ or Agent, including a schedule for implementing the control measures.

ATTACHMENT G

Inspection Response Documentation

From: [Rachel Marriott](#)
To: [Klemesrud, Jon](#)
Subject: Re: Trails End Recovery Sample Results
Date: Wednesday, January 10, 2024 4:16:46 PM
Attachments: [EPA Inspection 1-3-24.pdf](#)

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good afternoon Jon,

We appreciate the recent EPA inspection of our Trails End Recovery facility in Warrenton. Following the inspection, we have taken steps to address all identified issues to ensure ongoing compliance with environmental regulations.

Attached are some photos of the BMP maintenance that was completed last week. We are open to further collaboration and welcome any recommendations for our continued compliance.

Please let us know if you have any questions.

Thank you,



Rachel Marriott
Office Manager
Custom Excavating by Dean
Larson Inc.
DBA: Trails End Recovery



2060 SE Airport Lane Warrenton, OR
97146
P: (503) 861-6030
F: (503) 861-4341

www.customexcavatinginc.com

DISCLAIMER: CONFIDENTIALITY NOTICE TO RECIPIENT

This email (including attachments) is covered by the Electronic Communications Privacy Act, 18 U.S.C. §§ 2510-2521, is confidential and may be legally privileged (including, without limitation, attorney-client privilege). If you are not the intended recipient, you are hereby notified that any retention, dissemination, distribution or copying of this communication is strictly prohibited. If you have received this message in error, please notify the sender, and delete it immediately.

On Fri, Jan 5, 2024 at 2:04 PM Klemesrud, Jon <Klemesrud.Jon@epa.gov> wrote:

Trails End Recovery
2060 SE Airport Lane
Warrenton, OR 97146

BMP Maintenance done Jan. 3, 2024 – Pond 1



The absorbent pads, absorbent socks and biobags were replaced.

BMP Maintenance done Jan.4 & 5, 2024– Pond 1



Thursday 1/4/24 we skimmed Pond 1, cleaned the baffles, and added more rock. Friday 1/5/24 we finished maintenance on the baffles.

BMP Maintenance done Jan. 3, 2024 – Pond 2



The biobags were replaced on the SE side of Pond 2 to slow the incoming runoff. We replaced and added additional absorbent pads.

BMP Maintenance done Jan. 4 & 5, 2024 – Pond 2



Thurs 1/4/24 we cleaned up the bark around the pond, refreshed the biobags, and did some maintenance on the baffles.

Fri 1/5/24 We expanded the rock around the pond, added biochar bags to the baffles, and added berms on the west and southeast sides to channel runoff to the north side of the pond to increase settling time. We also added log barriers around the southeast side to prevent equipment or vehicles from parking nearby.

BMP Maintenance done Jan. 4 & 5, 2024 – Pond 2



The lighter colored rock is the new berm added to channel the water.

BMP Maintenance done Jan. 3, 2024 – Pond 3



All absorbent pads were replaced and we added additional rock around Pond 3a.

BMP Maintenance done Jan. 5, 2024 – Pond 3



Friday 1/5/24 we dug out Pond 3a chamber and changed the absorbent pads again, dugout and replaced the inlet rock, and added rock to the road. Cleaned up small amount of sheen adjacent to Pond 3a.

BMP Maintenance done Jan. 3, 2024 – Pond 4



Pond 4 - added additional absorbent pads

Sheen from the recent oil change on the Edge Air Screener (adjacent to inlet to Pond 3) was cleaned up with absorbent pads. Additional rock was added around Pond 3.



Small leak from the 500 loader was cleaned up, the machine hoses were capped and it was moved to the shop for repairs.

